

The

CONSTRUCTOR

SPECIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA



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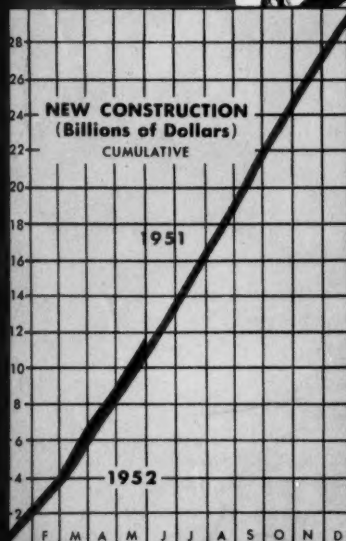
○ BUILDINGS

○ HIGHWAYS

○ AIRPORTS

○ RAILROADS

○ PUBLIC WORKS



1952 Billion in New Construction Forecast—22
Scaling of Controls to Bolster Volume—21
Subcontractors' Bill Attacked in Hearings—28

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Saved—A \$10,000 Form-Set

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● Recent additions to Miami Beach's galaxy of fine oceanside hotels are the Lombardy and the Emerald Isle . . . both all-concrete structures . . . fire-safe, durable, attractive.

As canny as it is sunny, Miami Beach gets maximum value out of the hotel-building dollar. Both of these dis-

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Scheduled construction took fullest advantage of dependable 'Incor' high early strength, with these newsworthy results in savings of time, money and materials:—

- (1) From blue print to occupancy in 150 working days on the 153-room Lombardy . . . a similar record on the 110-room Emerald Isle;
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*Reg. U.S. Pat. Off.

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What does a set of forms cost today? Plenty! Get twice as many re-uses and you cut form costs in half. Here's a sure way you can save money. Use 'Incor' concrete . . . fill forms, strip and re-assemble in 24 hours. One form set does the work of 2 or 3 as formerly required.

Dependable 'Incor' high early strength gives you maximum job speed, saves time and overhead . . . with 50-60% less forms. Prove it yourself!

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The CONSTRUCTOR

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RAILROADS • PUBLIC WORKS

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COVER

Raising of the final 400-ton span completes steelwork on the Chesapeake Bay Bridge—world's third largest—near Annapolis, Md. As engines hoisted the span, the Stars and Stripes fluttered from it in construction industry tradition. Floating 28 of the bridge's big spans and 39 suspension bridge assemblies was largest flotation job in history of bridge building. The 33,000 tons of steelwork was fabricated and erected by Bethlehem Steel Co.

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C.I.T. CORPORATION

Industrial Financing

ONE PARK AVENUE, NEW YORK 10, N. Y.

S. G. MADDOCK
PRESIDENT

June, 1952

Dear Mr. Contractor:

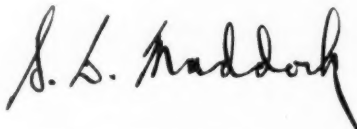
There is more profit for you through C.I.T.
deferred payment financing.

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enables you to purchase equipment when you
need it to start working on your jobs. Also, you
earn the discounts that may be extended for
cash purchases.

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your individual needs.

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Soaring construction volume will register another record this year, with new work estimated at more than \$32 billion, Departments of Commerce and Labor reported. The agencies, which had been reluctant to make any official forecast while stringent controls were in effect, reported new estimate in wake of a new schedule of control relaxations, more housing construction than was expected, and increased defense work.

Revised 1951 volume of new construction announced on basis of new information totals more than \$31 billion, making construction a \$40-billion industry, largest in the nation, when repair and maintenance figures are added. (Page 22)

Major control relaxations scheduled to go in effect in either the 3rd or 4th quarters are calculated to bolster sagging nondefense construction. They include easing the ban on recreational and amusement projects and increased amounts of controlled materials that may be self-authorized for many other types, benefitting commercial, religious, school, housing, highway and local government projects. No new benefits announced for hospital and industrial construction.

Possibility of further relaxations to be studied by task group of National Production Authority's Construction Industry Advisory Committee, including need for a self-authorization procedure for multi-unit apartment projects.

Diminishing backlog of applications for commercial and other nondefense construction indicates speed with which NPA is approving allotments for the 3rd, 4th, or subsequent quarters, with virtually all requests okayed. Announcement early this month of a new list of approved industrial jobs will leave the agency with practically no backlog in this category. (Pages 21-22)

Easing of Regulation X, the Federal Reserve Board's restriction on construction credit, was under consideration the first week in June. Officials said some relaxation of housing credit was planned. However, the government's estimate of a new construction volume peak this year was predicated on an early easing, also, of curbs on commercial construction credit under the regulation.

Subcontractors' legislative proposals requiring general contractors to name specialty or subcontractors and their prices in bids for federal projects were hit hard, May 20-21, by 19 A.G.C. members and three chapter managers. Other representatives of A.G.C. firms, the association's managing director and its legal counsel concluded their opposition to S. 2907 and 8 similar House bills in a June 3rd appearance before a subcommittee of the Senate Judiciary Committee, pointing out the obstacles to the proper conduct of construction, discrimination among subcontractors, unreasonable administrative burden to the government, increased costs and other disadvantages that would result from such legislation. (Page 28)

Bid opening dates for major military construction are being coordinated by the Corps of Engineers and Navy Bureau of Yards and Docks to help ease the logjam of contract lettings scheduled for the next several months. Air Force construction is included in plan to avoid conflicts, with dates set at least 2 or 3 days apart in any area which draws from the same general pool of contractors. Direct contact will be maintained between Navy and Army field offices on projects costing more than \$1 million.

Inventory limitations on controlled materials apply to construction as well as production, NPA pointed out, noting that some builders have been accepting deliveries in violation of CMP Regulation 2 in the erroneous belief that it did not apply to them. If a purchaser has on hand more than 45 days inventory of steel or aluminum or 60 days supply of copper, he may not accept further deliveries until the excess is used.

Atlas Constructors, the joint venture constructing the African air bases, had opportunity to defend itself against charges of waste and inefficiency before Preparedness Subcommittee of Senate Armed Service Committee. Atlas submitted documents replying to every charge and answered every question posed by members of the committee and its counsel. (Page 22)

North Carolina force account program for highways reached crisis as state obtained permission to construct 7 federal-aid secondary projects in competition with 8 similar jobs to be performed by contract. Bureau of

Public Roads engineers are stationed on the projects to check costs and other data for comparisons when jobs are completed late this year. (Page 46)

New roads will come only through an aroused public, Albert Bradley of General Motors Corp. told delegates to the Fourth Annual Highway Transportation Congress last month. PAR (Project-Adequate Roads) movement for new highway construction got new stimulation at the meeting. Several speakers deplored collection of highway revenues by federal government and reliance on federal aid for local projects. (Page 45)

Federal-aid for highways has been authorized at \$550 million annually for fiscal years 1954 and 1955 by the Senate. The committee had recommended \$650 million per year, but the cut came from acceptance of a proposal by Sen. Paul Douglas (D., Ill.) to cut \$200 million from the total two-year amount. Senate and House versions are approximately the same for regular federal-aid programs. (Page 30)

Military construction funds of \$3 billion has been requested of Congress by the Defense Department. Favorable reception is not anticipated, unless international events turn the opinions of many Congressmen. House military leaders want the \$2 billion domestic base program slashed in half.

Atomic energy expansion appropriations of \$9.3 billion for fiscal year 1953 were asked by President Truman, May 29, to begin major additional expansion to cost \$4.2 billion over a 5-year period. While only \$650 million would be spent next fiscal year, the remainder is requested for construction and equipment obligations. About \$150 million of the request would go to the Tennessee Valley Authority.

Building Research Advisory Board's final report on conservation measures, due to go to the Defense Production Administration June 30, is considered by the board as "a framework for long-term conservation equivalent to a guide for the general advancement of building technology." Meanwhile, DPA's government committee has recommended three conservation steps to permit more building with materials available. (Page 52)



ON THE FORT RANDALL DAM PROJECT, a "Caterpillar" No. 20 Scraper is push-loaded by a D8 Tractor equipped with a push plate.



DUMPING SMOOTHLY AND EVENLY, the DW20 and matching Scraper is ready for a quick return trip.

In the land of Sitting Bull...

**They're moving
35,000,000
cubic yards
of earth**



BACK FOR MORE FILL goes the big "Caterpillar" unit, passing one of the "Cat" No. 12 Motor Graders that keeps the haul road smooth and firm.

THE Western Contracting Corp., Sioux City, Iowa, is rearranging the earth in the area of Pickstown, South Dakota. It is working on an Army Engineers' contract to move 35,000,000 cubic yards of earth for the construction of Fort Randall Dam and Reservoir.

In the end, a rolled earth dam 10,000 feet long and 160 feet above flood plain will rise on the site of old Fort Randall.

Sitting Bull never would recognize his old whooping ground. Not after the way five hustling "Caterpillar" Diesel DW20 Tractors with No. 20 Scrapers have shifted the scenery. It might break the chief's heart, but it pleases Carl Collins, general superintendent of Western Contracting Corp.

"The DW20s are the very best wheel tractors on the market today," he reports. "I ought to know because I've used them all. They're tough and fast."

Wet, Sticky Gumbo—The 5 burly, yellow tractors are moving 4,200 pay yards a day operating in wet, sticky gumbo that makes tough loading and spreading. They are push-loaded by "Caterpillar" Diesel D8 Tractors—Western Contracting owns 25—equipped with push plates. The DW20s wheel through an average of 3.5 trips an hour using a half-mile haul road with an 8 per cent downhill grade.

The "Caterpillar" team on the Fort Randall job includes a fleet of 8 No. 12 Motor Graders which keep the haul road smooth and firm, and 8 "Caterpillar" Electric Sets.

When finished, the Fort Randall Dam will bring flood security and relief from a critical power shortage for thousands of persons in the Missouri Valley.

In helping build the Fort Randall Dam, the hard-working, rugged "Caterpillar" team of equipment is bringing a better way of life to a large segment of the nation's population.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for May stands at Index Number 381, according to the A.G.C. Index. The cost figure for May 1951 was 378. The 1913 average equals 100.

Number 290. The average a year ago stood at 296. The 1913 average, again, equals 100.

CONTRACT AWARDS IN 37 STATES

The volume of contracts awarded during April (Index Number 320, based on 1936-1938) is an increase of 55 points from March and an increase of 43 points from April 1951.

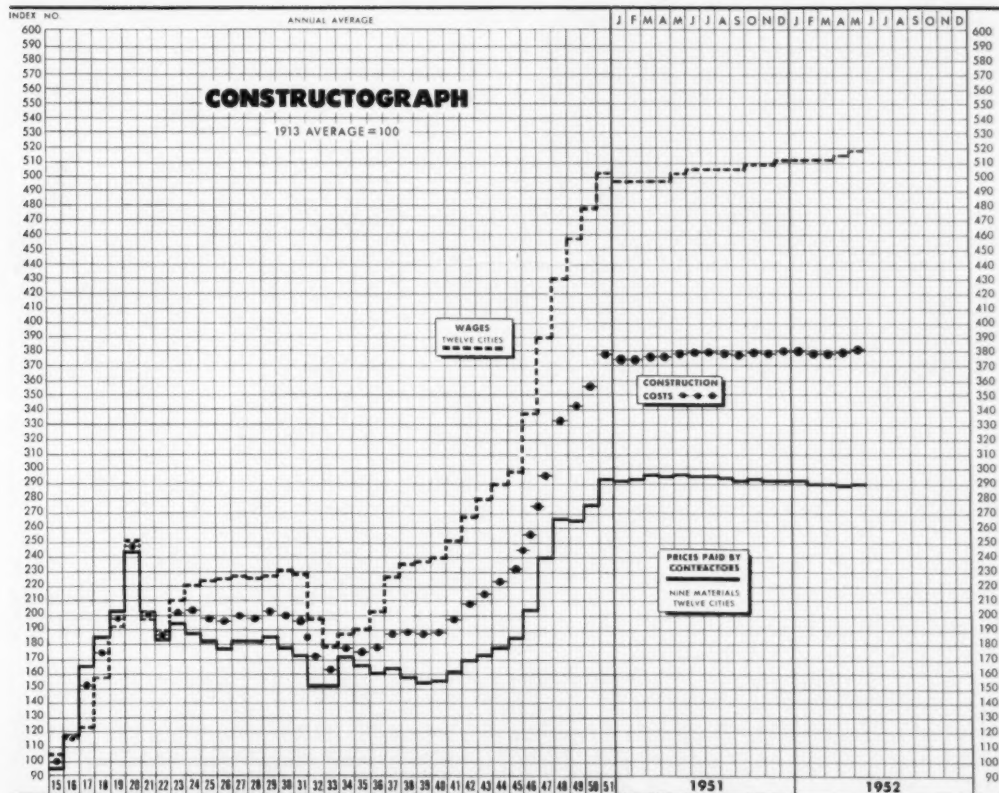
WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 518 for May. One year ago the average stood at 503. The average prices paid by contractors for basic construction materials for May stand at Index

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 20 weeks of 1952 totaled 14,469,126 cars. For the same period in 1951, loadings amounted to 15,067,093 cars. This represents a decrease of 4%.

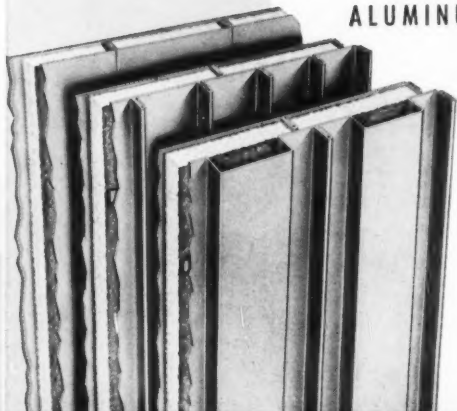
● Wage, Material Price and Construction Cost Trends



INSULATED

METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS
ALUMINUM, STAINLESS or GALVANIZED STEEL



FLUSH, RIBBED, or FLUTED
Over-all "U" Factor of Various Types is Equivalent
to or Better than Conventional 16" Masonry Wall

COPING DETAIL
PARAPET WALL



This light-weight permanent wall construction continues to gain favor among designers, builders and owners throughout the country . . . it is ideal for curtain walls in virtually any type of structure—either when employed for the entire wall surface, or in combination with brick or other materials. The building illustrated below is typical. Mahon Insulated Metal Walls can be furnished in the three distinct exterior patterns illustrated at left . . . they are available in two "Field Constructed" types, and in two types of "Prefabricated Panels". Walls of the "Field Constructed" type can be erected up to fifty feet in height without horizontal joints—a feature of Mahon walls which is particularly desirable in power houses or other buildings where high expanses of unbroken wall surface are common. For specifications and complete information on this modern, permanent Wall Construction, see Sweet's Files, or write for Catalog No. B-52-B.

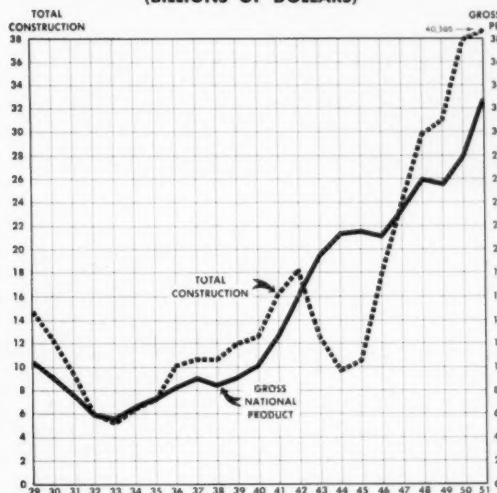
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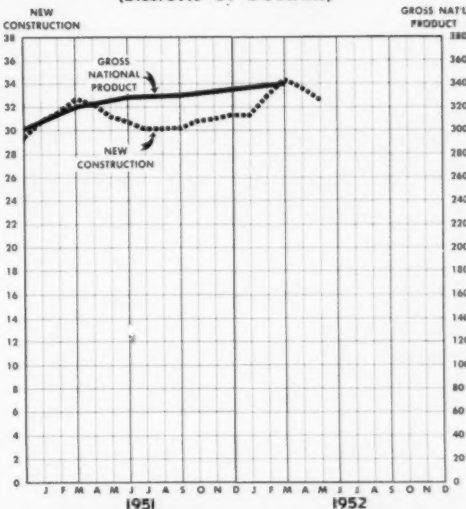
MAHON

● TOTAL Construction compared with Gross National Product (BILLIONS OF DOLLARS)



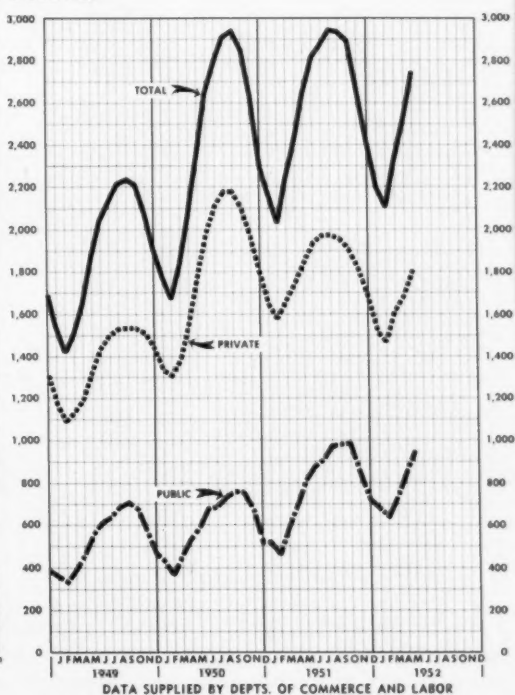
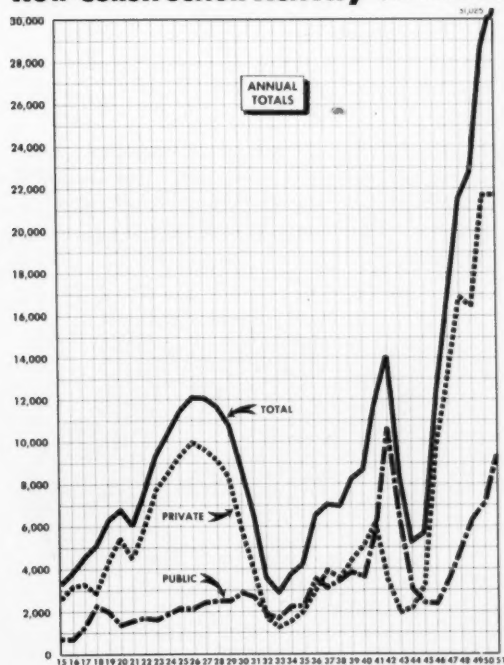
DATA SUPPLIED BY DEPT. OF COMMERCE

● NEW Construction compared with Gross National Product* (BILLIONS OF DOLLARS)



* Seasonally adjusted at an annual rate

New Construction Activity (MILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

digging ditches

TO BLUEPRINT SPECIFICATIONS



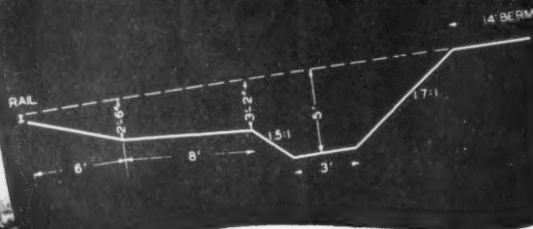
Using special bucket built by owner, Gradall digs and trims irrigation ditch, eliminating hand finishing.



Along busy highway, Gradall accurately cleans slope, digs ditch, and loads spoil, all in one operation.



Gradall digs two-level ditch — tilting arm-action boom permits chamfering slope to desired angle.



NO MATTER WHAT TYPE DITCH IT IS, the Gradall will dig it with the accuracy of hand labor—but at much less cost!

Gradall has proved itself a time and labor saver on many different types of ditching jobs—following the special contours of ditches along railroad right-of-ways, along highways, in extensive irrigation projects—anywhere precision work is required.

By power hydraulics, the Gradall exerts a positive down pressure, rather than depending upon the weight of the bucket for its cutting action. And its "arm-action" boom twists and turns to cut slopes at any desired angle—to work easily around obstacles. Its mount permits a 360° swing to load or waste spoil. And many standard and special tools can be easily interchanged in a matter of minutes.

Contractors, officials of utilities and municipalities, and highway men alike are enthusiastic over Gradall's clean, finished work—done exactly to "specs". But see for yourself—Contact your Gradall Distributor for a field demonstration.



**WARNER
&
SWASEY**

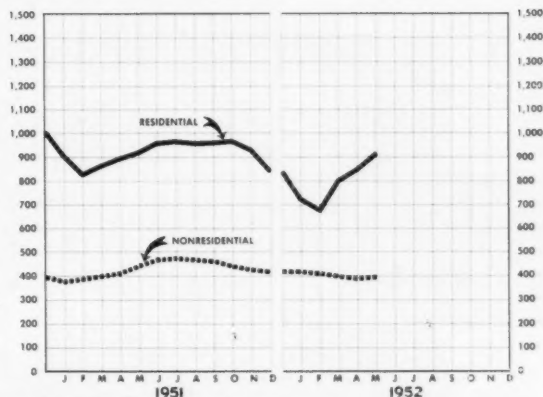
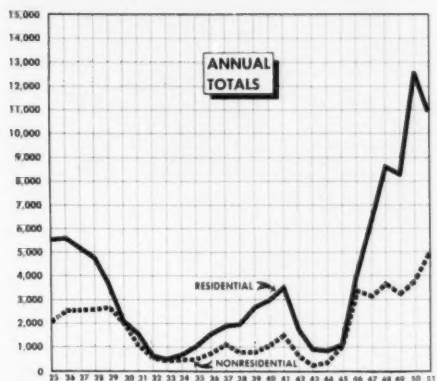
Cleveland

**Gradall Distributors in over 60 principal cities
in the United States and Canada**

GRADALL—THE MULTI-PURPOSE CONSTRUCTION MACHINE with Controlled Down Pressure

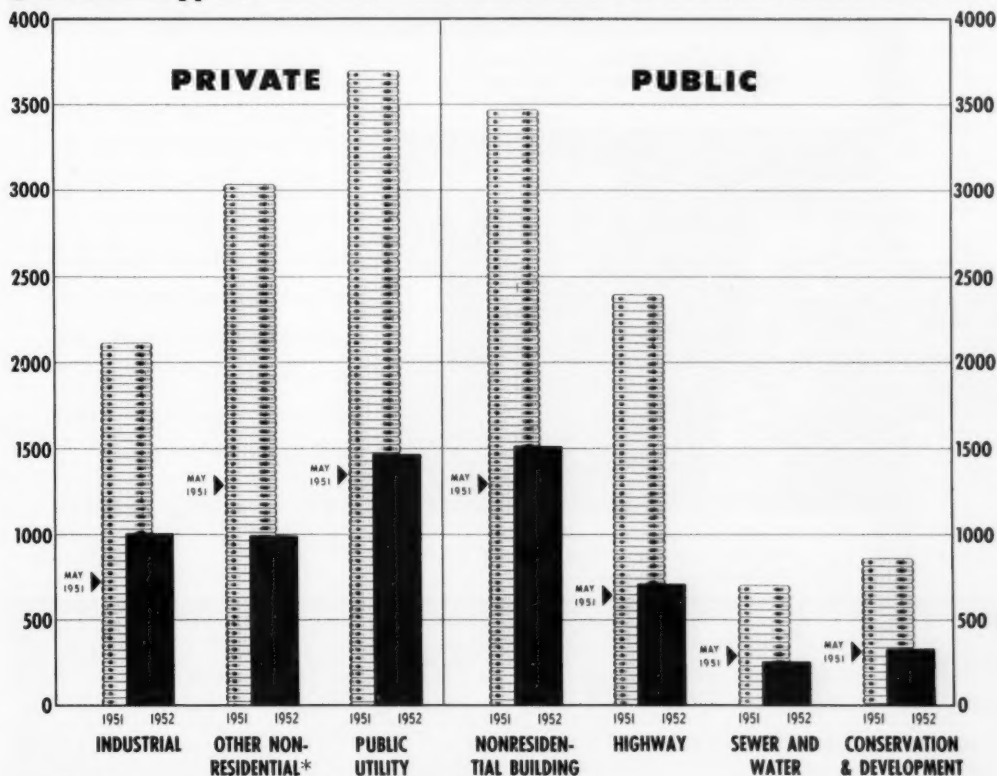
NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building* (MILLIONS OF DOLLARS)



* Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.

● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1951 and 1952 VOLUME THROUGH MAY



* Includes commercial, institutional, and social and recreational building

Like Mules and Canyon Trails . . .

they Go Together



ALL-WHEEL DRIVE



Power in the front drives makes it safe to bulldoze headfirst down a steep slope . . . easy to back-up for another load.

ALL-WHEEL STEER



Starting to straighten out after making the turn . . . rear steer keeps its end of the Grader out of danger.

Yes, All-Wheel Drive and All-Wheel Steer go together...work together...on every job. Take the matchless traction and power-at-the-blade of All-Wheel Drive; add the superb maneuverability of All-Wheel Steer and you get Controlled Traction, which moves more material . . . of any kind . . . farther and faster.

Why be satisfied with less in a motor grader?

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Austin Western

SINCE 1859—BUILDED BY BALDWIN-LIMA-HAMILTON CO. CONSTRUCTION EQUIPMENT



For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

THIS table indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from February 15, 1950 to April 15, 1952.

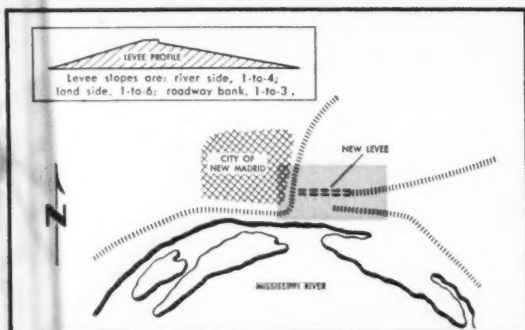
They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

The Bureau of Labor Statistics surveys 10 key cities every month and 24 other large cities quarterly. Prices are obtained on food, fuel, apparel, house furnishings and miscellaneous goods and services. Rental information is obtained quarterly only for all cities. The computations are based on the indexes for the years 1935-39, which are taken as the average of 100 points.

	1950			1951			1952		
	FEB. 15	MAR. 15	APR. 15	FEB. 15	MAR. 15	APR. 15	FEB. 15	MAR. 15	APR. 15
Average.....	166.5	167.0	167.3	183.8	184.5	184.6	187.9	188.0	188.7
Birmingham, Ala.....	166.4	168.4	167.7	189.8	190.6	189.9	193.9	193.6	193.3
Mobile, Ala.....	.....	166.2	.....	.....	181.9	.....	.....	187.9	.....
Los Angeles, Calif.....	166.1	165.9	166.9	184.1	185.6	185.6	190.7	190.9	191.5
San Francisco, Calif.....	.....	172.3	.....	.....	188.7	.....	.....	193.1	.....
Denver, Colo.....	.....	.....	165.7	.....	.....	187.0	.....	.....	191.1
Washington, D. C.....	163.6	.....	.....	179.2	.....	.....	183.9	.....	.....
Jacksonville, Fla.....	.....	174.8	.....	.....	190.4	.....	.....	195.6	.....
Atlanta, Ga.....	168.3	.....	.....	187.5	.....	.....	195.2	.....	.....
Savannah, Ga.....	.....	.....	170.9	.....	.....	195.5	.....	.....	199.6
Chicago, Ill.....	172.0	172.9	172.9	188.5	189.1	189.1	191.9	192.7	193.1
Indianapolis, Ind.....	.....	.....	170.9	.....	.....	187.7	.....	.....	189.8
New Orleans, La.....	170.6	.....	.....	187.9	.....	.....	190.5	.....	.....
Portland, Me.....	.....	163.7	.....	.....	175.7	.....	.....	180.6	.....
Baltimore, Md.....	.....	170.1	.....	.....	188.6	.....	.....	193.0	.....
Boston, Mass.....	160.7	162.0	162.3	175.5	175.8	175.5	179.3	179.1	178.9
Detroit, Mich.....	168.1	168.3	169.5	186.2	187.0	186.7	190.7	190.7	191.7
Minneapolis, Minn.....	.....	167.1	.....	.....	183.2	.....	.....	188.0	.....
Kansas City, Mo.....	.....	.....	161.1	.....	.....	178.5	.....	.....	183.3
St. Louis, Mo.....	.....	.....	.....	.....	185.2	.....	.....	190.2	.....
Manchester, N. H.....	.....	167.4	167.1	.....	.....	182.9	.....	.....	187.0
Buffalo, N. Y.....	.....	.....	166.3	.....	.....	183.3	.....	.....	188.8
New York, N. Y.....	163.7	164.0	164.5	180.8	180.4	180.6	183.0	182.4	183.5
Cincinnati, Ohio.....	167.2	167.9	167.3	183.9	184.4	184.6	187.1	187.5	188.4
Cleveland, Ohio.....	168.7	.....	.....	186.2	.....	.....	191.8	.....	.....
Portland, Ore.....	.....	.....	174.8	.....	.....	194.1	.....	.....	198.6
Philadelphia, Pa.....	165.1	166.0	166.0	185.4	185.6	185.9	187.1	187.8	188.2
Pittsburgh, Pa.....	169.5	169.5	170.1	185.6	186.0	186.7	190.9	190.3	190.9
Scranton, Pa.....	163.7	.....	.....	180.8	.....	.....	184.2	.....	.....
Memphis, Tenn.....	.....	169.4	.....	.....	186.5	.....	.....	190.2	.....
Houston, Tex.....	172.0	172.9	171.1	191.0	192.4	192.5	194.3	194.3	194.7
Norfolk, Va.....	167.1	.....	.....	187.1	.....	.....	192.3	.....	.....
Richmond, Va.....	.....	.....	161.9	.....	.....	181.2	.....	.....	184.5
Seattle, Wash.....	171.6	.....	.....	188.3	.....	.....	195.3	.....	.....
Milwaukee, Wis.....	167.6	.....	.....	187.5	.....	.....	195.1	.....	.....

5

bottom-dump Tournahoppers



Cook's contract with the U. S. Engineers calls for moving 800,000 yds. for the levee and 170,000 yds. of ditching. When completed, the embankment will close a 3/4-mile gap between the main levees east and west of New Madrid, Mo. The new section will measure 285' wide at its base, 30' high at the center, and will extend exactly 4167'. A 10' crown, plus a 15' supplementary roadway on top, will also be constructed.



on 3000' cycles

W. G. Cook Construction Company, Jackson, Mississippi, with contract for a 970,000-yd. closure levee at New Madrid, Missouri, is speeding production with 5 15-yd. electric-control C Tournahoppers.

Loaded in 70 to 90 seconds by a 3 1/2-yd. dragline, these mobile Bottom-Dumps are averaging 10 pay yards of bulky, high-void gumbo per load. On a typical 3000' cycle, each Tournahopper delivers 75 pay yards per hour. Though haul includes a very slippery 2% adverse grade coming out of pit and 3% adverse onto fill, rigs complete a round trip in 6.7 minutes . . . make 7.5 trips per 50-minute hour. "Clamshell-type" gates wipe clean, eliminate haulback of gummed-in material.

Tournahopper's big 9' x 11' bowl provides easy loading target for operator of 3 1/2-yd. dragline. About 3' of sandy silt has been stripped from the top of this 2300'-long pit and placed on land side of levee. Remaining material, all gumbo, is now being loaded and used to build up a water-tight wall on the river side.

**High-speed, Rubber-tired
 Hauling • Excavating
 Lifting Equipment**



deliver 375 pay yards per hour



on Missouri levee

Round-trip speed over muddy haul roads averages 9 m.p.h. Top for Tournahoppers is 35 m.p.h. . . . a speed the 5 rigs frequently hit in driving 60 miles to this job from another Mississippi River levee project at Cape Girardeau, Missouri.

Whenever *you* have levee dirt to move, it will pay you to get all the facts on LeTourneau's fast Tournahoppers. Now available in 18 and 27-yd. models, these high-traction units are readily interchangeable with similar-size Scrapers for normal dirt jobs and with Rear-Dumps for rock work. Talk it over with your LeTourneau Distributor. Ask him for reprints of other case histories that may suggest profit opportunities for you!

After dumping, Tournahopper swings around and hurries back to cut. With 90° power steer, rig turns in 15'8" radius, works fast in restricted areas, travels safely through traffic. More braking surface per ton than any other hauler (3763 sq. in. total on the 4 wheels) gives operator perfect control in traffic and on levee banks.



Rig hauls typical 10-yd. load of bulky gumbo. With pit flooded for months, and with a heavy 3 1/2" rainfall a week before pictures were taken, going was unusually tough, even for river work. Low-pressure tires, plus power-proportioning differential (which automatically transfers power from slipping wheel to wheel on firmest footing), gave Tournahopper remarkable traction in this poor footing, however . . . let the 5 rigs work 20 hours a day, 6 and 7 days a week.



R. G. LeTOURNEAU, INC.
Peoria, Illinois

Hospitals are Happier

**with Truscon
Steel Windows**



Truscon Intermediate Casement Combination Steel Windows in the Nurses Home, General Hospital, Lowell, Mass.
James H. Ritchie, Boston, *Architect*.
Volpe Construction Co., Malden, Mass., *Contractors*.

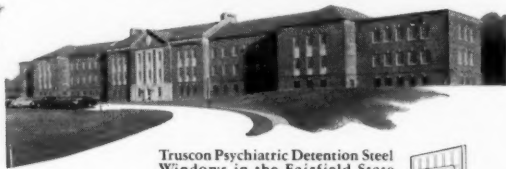


Truscon Series 46 Double-Hung Steel Windows, Truscon Architectural Projected Steel Windows, and Truscon Intermediate Steel Casements in the Youngstown Hospital, North Unit, Youngstown, Ohio. Truscon "O-T" Open Truss Steel Joists and Truscon Reinforcing Bars also used in this structure.
Kling & Frost, *Architects*.
Joseph Bucheit & Sons, *Contractor*.

Truscon Maxim-Air Steel Windows in the Ward and Infirmary Building, Arkansas State Hospital for Nervous Diseases, Benton, Arkansas.



Trapp & Clippard, *Architects*.
Linebarger Construction Company, *Contractors*.



Truscon Psychiatric Detention Steel Windows in the Fairfield State Hospital, Newton, Connecticut.
Adolph J. Adiletta, Bridgeport, Conn., *Architect*.
Fronge Construction Company, Bridgeport, Conn., *Contractors*.



Nature's free sunlight and fresh air are particularly valuable assets to hospitals of all kinds. Make these important hygienic and therapeutic forces fully available to the hospitals, sanitariums and similar institutions now on your boards, by adapting Truscon Steel Windows to their many specific needs. See SWEET's for complete specifications on the entire range of Truscon Steel Windows, and write for free illustrated literature.

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1100 ALBERT STREET • YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation



TRUSCON a name you can build on

Sidelights for Contractors

By John C. Hayes, Legal Adviser

Taxes

Receipt of Income.—The Tax Court has decided that a taxpayer, on a calendar year, cash basis of accounting, realized taxable income at the time of receipt of a check, although it was obtained after banking hours on December 31. The court stated that, as a practical matter, the transfer of funds by check is an accepted procedure in everyday personal and commercial usage, with the parties thinking in terms of payment, except in the unusual circumstance (not here involved) of the check's being dishonored upon presentation.

Deductible Repairs.—The cost of tuck pointing, where needed, and cleaning the exterior walls of a taxpayer's building was held by the Tax Court to be deductible for income tax purposes as a current expense, rather than to constitute a capital improvement recoverable only through depreciation allowances.

Statute of Limitations.—Noting that statutes of limitations normally begin to run when a crime is complete, a district court ruled that the six year statute of limitations barred a prosecution for tax evasion where the false return was filed on January 15, 1946, and the indictment was found by the grand jury on February 15, 1952. The Court disagreed with the Government's contention that the offense was not committed until March 15, 1946, the last permissible date for filing the return.

Partially Worthless Debts.—The Internal Revenue Code provides that the Commissioner, when satisfied that a debt is recoverable only in part, may allow the deduction thereof in an amount not in excess of the part charged off within the taxable year. The Tax Court has upheld the Commissioner in disallowing a deduction thereunder where a corporate taxpayer reduced its surplus account for such purpose but did not reduce the two accounts receivable or otherwise indicate how the reduction was to be apportioned to the two specific debts claimed to be partially worthless.

Profit Sharing Plans. Two profit sharing trusts set up by an employer for the sole benefit of its employees with five or more years of service were held by the Tax Court to be exempt from income tax under Section 165(a) of the Code, and contributions thereto by the employer to be deductible, despite the Commissioner's objection that the trusts provided no definite, predetermined basis for determination of the profits to be shared. In so deciding, the court followed a court of appeal's ruling which had reversed an earlier Tax Court decision to the contrary.

Stock Dividends.—A pro rata distribution of preferred stock as a dividend on common stock, which had been the only class of stock outstanding, was decided by the Tax Court to constitute a taxable dividend to the common shareholders. Influencing the decision were the facts that there had existed a prearranged plan for the stockholders to realize cash by selling the preferred shares to insurance companies and that there had been no corporate purpose to be served other than reducing its accumulated earned surplus to avoid a possible surtax.

Travel Expenses.—The Supreme Court has refused to review a circuit court decision that amounts spent for meals in the greater Boston area by a resident of Milton, Massachusetts, which is ten miles from Boston, are not deductible as traveling expenses incurred while away from home in pursuit of trade or business.

Business Expenses.—Where a father paid the purchase price of certain business property but had title taken in the name of his son, who agreed to hold the property in trust but subsequently died and whose widow refused to recognize the trust, a circuit court held that legal expenditures by the father to establish his ownership of the property were not deductible as ordinary and necessary business expenses. The expenditures were classified as perfecting title, a matter of capital investment rather than of income.

Public Contracts

Disputes Clause.—Citing as authority the Supreme Court's decision in the Wunderlich case, a district court concluded that the General Accounting Office, in the absence of proof of fraud, has no authority to upset a contracting officer's findings of fact and to disallow a government contractor's claim when the contract provides that findings by the contracting officer on questions arising between the parties shall be final.

Bid Bond.—Under a ruling by the Comptroller General, a bidder and his surety continue to be liable jointly and severally to the government in the amount of the bid bond where there is a failure to execute a binding contract following acceptance of the bid although the lack of a formal contract was caused by the failure of the government's supervising official to give his required approval to the contract.

Walsh-Healey Act.—The two-year period of limitation imposed by Section 6 of the Portal-to-Portal Act upon commencing any action to enforce liquidated damages under the Fair Labor Standards Act, the Walsh-Healey Act, or the Bacon-Davis Act has been held by a circuit court not to apply to an action by the government for liquidated damages to enforce the child labor provisions of the Walsh-Healey Act. Since two other circuit courts have previously reached opposite conclusions on this question, a review and ruling by the Supreme Court may be forthcoming.

Salary Stabilization.—Concerning both public and private contracts, there has been issued General Salary Stabilization Regulation 6, providing for the establishment of pension trusts and annuity plans without prior approval by the Office of Salary Stabilization. Salary Procedural Regulation 2, recently released, sets forth the procedures for enforcement of general salary stabilization regulations and orders of the Salary Stabilization Board and of determinations of the Office of Salary Stabilization.

NEVER BEFORE SO MUCH

Value

IN THE
1 yd.
CLASS

AIR CONTROLS

Air does the work on the "50". Air assist controls hoist, crowd, retract operations—full air control for crawler steering and tread lock operation.

HYDRAULIC COUPLING

No shocks, no engine stall with Lorain Hydraulic (fluid) Coupling. It's the only 1-yd. machine with Hydraulic Coupling as standard.

CHOICE OF 4 CRAWLERS

Standard, extra-long, extra-wide, wide and long . . . you can fit the "50" with a crawler to match exactly any ground, or working condition.

These 5 reasons are only a few of the many reasons why the Lorain-50 is your best bet in a 1-yard shovel-crane. Throughout the Lorain-50, there is more value, true "Balanced Quality" to give you fast, responsive, dependable performance in any kind of service. You will find more quality features in the "50" than in any other machine in the 1-yard class.

Be sure to obtain full facts on the "50" from your Thew-Lorain Distributor. Compare Lorain "Balanced Quality" in dollar value before you buy.

THE THEW SHOVEL CO.
LORAIN, OHIO

CENTER DRIVE CONSTRUCTION

Here's direct power—where you want it. Gang-up full engine power in any one operation, or spread power over simultaneous, synchronized operations.

5 INTERCHANGEABLE FRONT ENDS

For complete job versatility, any one of 5 interchangeable front ends can be used on the Lorain-50 . . . shovel, crane, clamshell, dragline and hoe.

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SHOVELS • CRANES • DRAGLINES
CLAMSHELLS • HOE

50

Financing Our Highways

THERE IS NO QUESTION but that financing is the No. 1 bugaboo in getting under way an adequate modernization and construction program for the nation's highway system.

Maintenance of such a program also has been hampered in the past and recently by stop-and-go policies, shortages of materials and the like as the result of wars and emergencies and governmental controls arising therefrom.

But always, there has been placed before farsighted highway planners that roadblock—more so in some states than in others—of getting the money for the job that has been growing fantastically bigger as yearly traffic increases and creeping obsolescence far outstrip maintenance.

This problem was highlighted at last month's Fourth Annual Highway Transportation Congress in Washington, D. C., where delegates called for positive actions to secure adequate roads (page 45).

At a panel session on highway financing, a representative of the U.S. Chamber of Commerce asserted that road improvement should be pursued by state and local governments rather than through federal aid.

"Aside from the strings that we will find attached to expansion of the federal-aid program, we are faced with an unparalleled need to cut federal spending," he stated. "Those who continue to press for sharp increases in federal spending for roads close their eyes to the price we are paying for bigger and bigger government."

It is possible that some quarters seeking principally a reduction in federal spending from whatever source might be cut, are confusing the highway program with other types of federal aid. An excellent outline of the federal-aid highway program was given in an address early this year by Pyke Johnson, president, Automotive Safety foundation, who stated:

"It would be a tragic and irrevocable error if this program were to be confused with any other quite different types of federal-aid legislation."

Mr. Johnson, who pointed out that "comparatively few" Americans are familiar with the unique role of the government in the highway field for some 30 years, made the following points:

1. Congress recognized in the basic law the constitutional obligation of the federal government to help provide postal routes and other roads necessary to national defense and the general welfare. Thus, highway funds never have been federal "grants" in the usual sense of that term, and authorizations are apportioned among the states by set formulae to prevent "log-rolling."

2. Each state retains complete sovereignty over its program, initiating, planning and operating its own highways, and utilizing private contractors for construction.

3. Uncle Sam has only a veto power, and can use that only on projects on which a state wishes to apply matching funds.

4. Funds can be withheld from a state only for specific departures from the law, including failure to provide a competent engineering organization, failure to protect the road investment by adequate maintenance, and the diversion of highway revenues to other purposes (if exceeding

diversion existing in 1934 when this feature was enacted into law).

5. Within these sharply limited federal powers, the program has exerted a vital influence on the upgrading of highway administration, resulting in a concentration of highway expenditures on road systems, "with incalculable savings of highway tax dollars." Funds are restricted to projects meeting rigid specifications, located on systems designated and approved in advance.

6. Actually, the federal share of total U.S. highway expenditures has averaged only 14% over the years and current authorizations represent only about 10%.

7. Federal highway revenues this year are expected to total \$2 billion, of which current authorizations for highway purposes amount to only one-fourth. Thus, in practical effect, Congress is guilty of large-scale diversion of highway revenues—the very evil it has legislated against in state practice.

The need for better financing plans by the states—who foot 90% of the highway bill, for more limitation on diversion of state highway funds, and for obtaining maximum values from current revenues deserve meritorious consideration.

The return to the states of revenue control operated by the federal government also deserves consideration.

However, while the federal government is collecting \$2 billion a year from highway users, and diverting three-fourths of it to other-than-highway purposes, it would seem desirable to obtain as much as possible for highways.

Naming Subcontractors

NINETEEN GENERAL contractors, three chapter managers, and other representatives of The Associated General Contractors of America on May 20 and 21 outlined to a Senate Judiciary subcommittee the practical reasons why S. 2907—or similar legislation to require the naming of specialty or subcontractors and their prices in bids for federal construction contracts—would operate contrary to the best interests of the government, of general contractors, of small specialty and subcontractors, and would increase the cost of construction. (See page 28).

Further public hearings were scheduled for early in June at which time other general contractor representatives were scheduled to appear.

The general contractor representatives demonstrated beyond doubt that the proposed legislation would seriously hamper them—if it did not make it impossible—in accepting and discharging undivided responsibility for the construction of federal projects in accord with government policies.

There are now several billion dollars of unexpended federal funds for defense construction by the military establishment, the Congress is acting on further appropriations, and the Atomic Energy Commission has another multi-billion dollar program in the future.

It is difficult to see how Congress could enact the proposed legislation which would have the effect of handicapping government agencies in securing necessary construction as promptly and economically as possible, and the effect of limiting competition in the mechanical specialty and subcontracting industry on federal work.

GM Diesel Case History No. 517-28

USER: U.S. Steel Company--

McDonald, Ohio, slag dump.

INSTALLATION: 4 Euclid 15-ton rear dumps
powered by GM 6-71 Diesels. 2 Haiss loaders

powered by GM 3-71 Diesels. Allis-Chalmers

HD-5 tractor powered by GM 2-71 Diesel.

PERFORMANCE: Each of the engines in the

Euclids has operated 11,000 hours to

date without overhaul.* 3 Euclids

hauling to crusher handle 2100 tons

per 10-hour day on 500 to 1000-yd.

haul cycles.* Piston rings

replaced in 3 engines at 10,000 hours.



THIS DIESEL has worked 11,000 hours without overhaul

Power users who standardize on General Motors Diesel for all equipment on the job, as U. S. Steel has done in this particular operation, can be sure of maximum return on their investment. GM Diesel's faster acceleration means more work output and smoother 7-cycle

operation means less wear and longer engine life. And, with most parts interchangeable, all Series 71 engines can be serviced with one small stock of basic parts. We're simply reporting what contractors and industrial users have told us when we say—

It pays to Standardize on

Write for booklet "A 50,000,000 horsepower Insurance Policy" that tells you why



DETROIT DIESEL ENGINE DIVISION

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SINGLE ENGINES . . . 22 to 275 H.P. MULTIPLE UNITS . . . Up to 600 H.P.

» THE CONSTRUCTION industry, bolstered by increased defense work and a schedule of further relaxations of controls on civilian construction to take effect in the latter half of 1952, appears to be well on the way toward another record volume year.

Several relaxations of controls aimed principally at underpinning faltering commercial, religious and other nondefense construction during the third and fourth quarters were projected last month by the National Production Authority. This was followed closely by a Commerce-Labor Department forecast of a record \$32 billion new construction volume during 1952 (see following page).

NPA Relaxations Scheduled

Major amendments to Controlled Materials Plan Regulation No. 6, the basic construction control order, will take effect under present plans on either July 1 or Oct. 1, as follows:

Recreational projects. Effective July 1, amusement and recreational projects listed in Table I of CMP 6 will no longer be banned, but will be permitted self-authorization of controlled materials per project per quarter of 5 tons of carbon steel, not to include more than 2 tons of structural shapes; 200 pounds of copper; and 250 pounds of aluminum.

This relaxation is expected to release hundreds of such projects which generally do not require large amounts of controlled materials.

Commercial projects. Effective Oct. 1, there may be self-authorized for general commercial construction, per project per quarter, 25 tons of carbon steel with no limitation on the portion of this amount that may be structural shapes; 750 pounds of copper; and 1,000 pounds of aluminum. (At present, self-authorizations for this category are limited to 5 tons of steel including 2 tons of structural, and 200 pounds of copper or 100 pounds of aluminum.)

Between July 1 and Oct. 1, 250 pounds of aluminum may be self-authorized. NPA's classification of "commercial construction" includes religious, municipal, county and state projects.

Industrial construction. Effective July 1, chemical plant projects may obtain 2,000 pounds of stainless steel per project per quarter through the self-authorization procedure.

The agency also announced, effective July 1, reclassification from the

Easing Construction Controls To Bolster Late 1952 Volume

- Third, Fourth Quarter NPA Actions Projected
- Commercial, Recreational Projects to Benefit

commercial to the industrial category of transportation facilities, public utility systems, water and sewage systems, administration buildings, garages and service buildings for industrial projects when owned and operated as part of the industrial project. Crane runways and baler installations incident to scrap yard operations also are being so reclassified. This means that these projects will receive the higher self-authorization privileges accorded industrial construction.

Roads and highways. As previously announced, effective July 1, self-authorization will be allowed per project in the amount of 12 tons of structural shapes per project, as a part of the 25 tons of carbon steel currently permitted, and 200 pounds of copper.

Schools. Also, as previously announced, elementary and secondary schools will, beginning July 1, be allowed self-authorizations per project per quarter of 50 tons of steel including not more than 7 tons of structural shapes, 1,000 pounds of copper and 1,000 pounds of aluminum. This change, which applies only to buildings in which at least 50 per cent of the floor space is devoted to classrooms, will be a jump from only 5 tons of steel, 200 pounds of copper and 100 pounds of aluminum.

More Relaxation Studied

NPA outlined the projected easing of controls listed on this page with its Construction Industry Advisory Committee on May 28 and agreed to appoint from the group a task unit to study the possibilities of even further relaxations.

Among subjects to be taken up by the unit will be whether self-authorization quantities of controlled materials should be permitted for multi-unit apartment building.

Representing The Associated General Contractors of America at the meeting were President A. S. Horner, Denver, and Past President Glen W. Maxon, Dayton, Ohio.

Residential. An amendment to Order M-100, the housing construction order, will permit after July 1 self-authorization of 1,500 pounds of new domestic structural shapes and 250 pounds of aluminum in addition to the present allowance of carbon steel and copper.

Steel. A provision will be included in CMP-6, July 1, to permit the same use of finished conversion steel as now allowed for foreign and used steel.

No changes were announced for the industrial and hospital categories of construction.

At the same time, NPA Administrator Henry H. Fowler announced decontrol of bismuth, cadmium, lead, and antimony, and easing of zinc controls.

Controls Subject to Change

NPA pointed out that the projected relaxations in construction controls are subject to change "in the event of altered conditions in the steel, copper or aluminum supply situations."

Appearing before the Construction Mobilization Committee of the U. S. Chamber of Commerce, Mr. Fowler strongly defended the controls system and praised its flexibility.

"The fact that the National Production Authority has been quick to relax controls wherever possible and to decontrol completely some materials does not mean that all material and production controls are a specious error and should be abandoned," he said. "The fact that the DPA and NPA have followed a selective system, with controls imposed upon the economy only where and when they were needed, should give you ample assurance that we have no desire to control just for the sake of controlling."

More Commercial Jobs Approved

Meanwhile, NPA officials continued to whittle down the backlog of applications for commercial, industrial and other nondefense construction in line with its recently-adopted policy of approving virtually all such requests on hand for allotments in the third or fourth quarters of 1952.

(Continued on next page)

Easing Controls (Continued)

The first group of commercial, religious, entertainment and municipal projects approved after disposal of second quarter applications was announced May 19, totalling 1,069 jobs costing more than \$337 million, covering actions by the agency during the month of April. Others were either exempt or did not require allotments.

Leading in the list which will receive allotments in the third quarter of 1952 or subsequent quarters were 249 retail stores and 109 office and loft buildings.

Hardship Areas Considered

The largest dollar volume, \$62 million, went to California, followed by New Jersey and New York. Many of the applications were from so-called "hardship areas" of Boston, New York, Los Angeles, San Francisco, Portland-Seattle, Providence and Washington, D. C., which were given special attention to alleviate unemployment in the building trades.

The April actions left NPA with some 600 applications valued at about \$250 million to take under consideration, and others as they may be received.

The agency's backlog of industrial project applications will be virtually exhausted with the announcement early this month of its latest approvals in this category.

Regulation X May Be Eased

On the credit control front, hints that housing credit curbs would be relaxed at an early date increased as the Federal Reserve Board had under "active consideration" changes in its Regulation X. The action was expected early this month. The board already had completely suspended its Regulation W controlling consumer credit in May.

No indication was given that the board was considering easing any of its restrictions on credit for commercial construction.

The board reportedly favored relaxing controls on houses priced over \$15,000 while housing officials leaned toward easier credit for cheaper homes.

However, at a House Banking Committee hearing last month, Federal Reserve Board Chairman William M. Martin, Jr., asked restoration of "flexibility" to the board's credit control powers as a standby weapon against inflation.

Another Peak Construction Year Forecast**• \$32 Billion 1952 Volume Slated; 1951 Total Revised Upward**

» THE GOVERNMENT last month predicted a surprising \$32 billion volume of new construction for 1952, topping last year's record, contrary to earlier predictions of a decline due to the mobilization program.

At the same time, the Departments of Commerce and Labor, which made the estimate, revised 1951 new construction volume upward to \$31 billion. Earlier estimates had placed the figure at just under \$30 billion.

New construction volume has been climbing steadily above last year's figures since the start of the year. While no official reasons were listed for the larger-than-anticipated volume, it apparently is resulting from a smaller effect of controls on housing than had been expected, the availability of more controlled materials, especially steel, than had been forecast, and relaxations of controls now taking place and scheduled for later quarters in the year.

The agencies stated:

"The anticipated volume . . . is based on the assumptions that no major interruption will occur in the production of steel and copper products during the remainder of this year, and that partial relaxation of Regulation X will take place in the near future. Supplies of all non-metallic building materials are expected generally to be adequate as will the supply of construction labor in most localities."

Private residential construction while probably a "shade less" than in 1952, will produce more than 1 million units, the agencies said.

Commercial and religious building

"will be off sharply" as the result of early 1952 restrictions, but will recover to some extent when the more liberal allotments planned for the last half go into effect.

Private industrial construction will increase as the result of "rounding out" the big expansion program begun last year.

Public utility construction will increase "somewhat," particularly for electric power and telephone facilities, and petroleum pipelines.

Public spending for atomic energy and defense plants is expected to rise 70% to more than \$1.6 billion, and military work should increase by 85% to \$1.9 billion.

Small increases were predicted for school and highway construction.

Declines are expected in most other types of public works, including hospitals, public buildings, and reclamation work.

The total private outlay is estimated at over \$21 billion, about the same as in 1951, while public spending will approach \$11 billion, a 17% increase.

Defense funds will not be used for plant expansion if the money can be obtained by other means, John H. Martin, deputy administrator of the Defense Production Administration stated recently when the agency rejected five applications by steel companies for expansion loans totaling \$400 million. Mr. Martin stated the basic policy in a letter of rejection to the Reconstruction Finance Corporation which handles expansion loans.

Morocco Base Contractors Defend Work**• Justice Dept. to Examine Record After Atlas Testimony**

» ATLAS CONSTRUCTORS, the joint venture constructing the African air bases, had the opportunity to defend their accomplishments before the Preparedness Subcommittee of the Senate Armed Services Committee on May 7.

During previous hearings by this committee and the House Committee on Expenditures in the Executive Departments various charges of waste and inefficiency had been made by witnesses. These charges involved the

Air Force, Army Engineers and the contractors.

The House subcommittee concluded its hearings without granting the request of the contractors for an opportunity to defend themselves and to present information on their accomplishments under difficult conditions.

Atlas made public its letter to Chairman Lyndon Johnson, of the Senate subcommittee, asking for a hearing and pointing out that: "state-

(Continued on page 24)

ARE YOU A BUILDER INTERESTED IN

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NAILING

gives you a solid anchor, prevents deep pockets of wasted concrete between joists.

MACOMBER NAILABLE STEEL JOISTS

NAILING

Into V Joist Steel Top chords gives you a non-combustible anchor $2\frac{1}{2}$ times stronger than wood.

ARCHITECTS AND BUILDERS who consider fire-safety and the economy of ready-to-install steel members as essential ingredients of good construction have something very special in Macomber Steel Joists.

That special something is NAILABILITY.

These all-steel structural units have a nail gripping power $2\frac{1}{2}$ times that of wood.

Result? You can build fire OUT and safety IN when you specify Macomber Nailable Steel Joists.

In addition you can:

1. Attach centering faster with nails.
2. Prevent pockets of wasted concrete between joists when centering is stretched taut.
3. Build a fire barrier to floors above.
4. Prevent the unsightly results of shrinkage and deflection.

Yes—if you are a builder interested in Steel Construction, you pay no more for the ONE STEEL JOIST that gives you ALL of these advantages. Write us.



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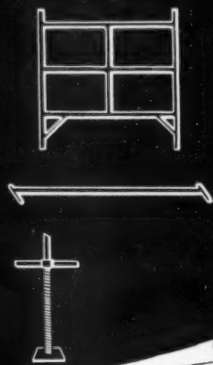
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V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

REDUCE SHORING COSTS

The EASIER, FASTER WAY

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4 BASIC COMPONENTS WILL SHORE ANY JOB

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◀ This tremendous shoring job was completed in four days, safely supported a load of 300 psf. Bases provided 16 1/2" of adjustment, lowered scaffold after pouring, allowed top panel to be removed for stripping forms. A rigid shoring as well as an efficient work platform.

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World's Largest Producer of Steel-Panel Scaffolding

460 NORTH STREET • ZELIENOPLE (Pittsburgh District), PA.
For Tubular Towers Catalog—Write our AMERICAN TUBULAR ELEVATOR CO. DIVISION

(Continued from page 22)

ments made before you which are, in our opinion, inaccurate and misleading, have been extremely damaging to the member companies of this group and, indeed, to the entire construction industry."

J. D. Bonny, chairman of the operating committee of Atlas, and Lyman D. Wilbur, resident partner in Morocco, were witnesses at the hearings which were held from 10:30 a.m. until almost 11 p.m. Both are vice presidents and directors of Morrison-Knudsen Co. Other members of the joint venture are Bates & Rogers Construction Corp., Ralph E. Miller Co., Inc., Blythe Bros Co., and Nello L. Teer Co.

Contractors Followed Contract

Prior to the public hearing Atlas submitted to the committee documents 3 1/2 in. thick in reply to every charge made against the company. During the hearings the company witnesses offered to, and did, answer every question asked by members of the committee and its counsel. The company demonstrated that all of its work was undertaken in conformity with the instructions from the Army District Engineer in charge, as required by the contract.

After the hearings Senator Johnson stated that the committee was sending to the Department of Justice "for any appropriate action" the complete record of the hearings because the testimony of many witnesses was "in direct conflict" with the testimony of others. He refused further comment until the committee makes an official report.

Atlas Testimony Summarized

Mr. Bonny summarized the work on the project as follows:

"The urgency of the initiation and completion of the first phase of the project was thought to be of primary importance to every human being in the free world.

"Atlas Constructors is not charged with the responsibility of global strategy nor political expediency. Our members are construction men and as such our position in this project is to build what we are told to build, where, when and under whatever conditions are encountered. As contractors, we have done what we agreed to do when we accepted our part of this program. We have performed honestly and to the best of our ability. The French

GENERAL

Moroccan Airbase work is the best work that could have been done under the whiplash of time and the circumstances surrounding it.

Denies Any Fraud or Graft

"We categorically deny that Atlas has in any way been involved in, or guilty of, fraud or graft in connection with our contract. We deny that mismanagement has existed and we challenge the competency of those who have so accused us. We deny that the waste which has occurred in connection with this project has been due to our fault or negligence or because of circumstances within our control.

"Any factual, fair-minded investigations into the construction and cost of the Moroccan Airbases can be made only in the light of conditions as they existed. Full weight must be given to the urgency of the situation, the need for the bases and the problems created by the bargaining tactics of the French Protectorate Government. No proper analysis can be made on a basis of what might have been done under other circumstances. The Moroccan bases were not built under anything approximating foreseeable conditions, but they were built."

Bomber and fighter planes flew from two of the air bases, constructed at sites not contemplated in the first negotiations for the contract, 88 days after the locations were determined.

Tells of Difficulties Encountered

Some of the difficulties encountered were cited by Mr. Bonny:

"Orderly, economical planning and operation, which is the normal approach to a construction job, is not possible under conditions such as those surrounding the initial phases of the Moroccan work, where plans and specifications are non-existent; where equipment must be procured wherever obtainable to meet unknown conditions; where quantities of work are not known; where wage rates are established by others months after work is started; where transportation of personnel and shipment of all materials, equipment and supplies are controlled by a separate agency of the government; where ships arrive in a foreign country and insufficient personnel is there to unload, tally, guard and protect the shipments; where work is done in a country using two foreign languages; where housing is extremely scarce, but no place is made available to build camps; where a central office

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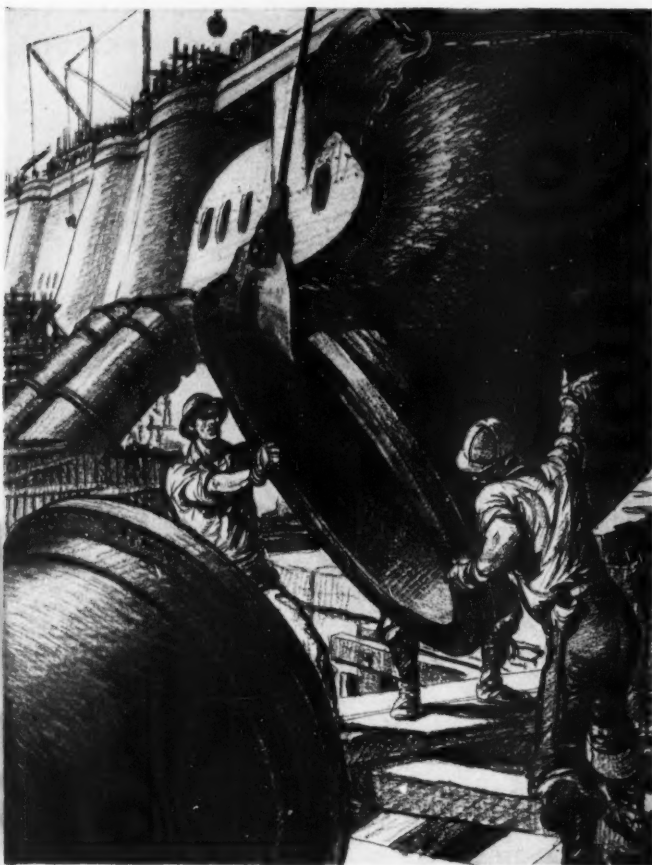
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cannot be constructed for a year, causing use of ten separate locations to obtain office space; where a separate foreign governmental agency must approve all action; where communications are very poor; where funds are turned on and off like a faucet; where recruitment and procurement have been started and stopped many times; where camps are built only to be torn down, moved to a new location, torn down and moved again, back to the original location; where construction work is started only to be stopped, the location abandoned; where personnel is recruited, processed and shipped to the point of embarkation and then returned to their homes, discharged because sufficient funds were not allocated in time; and where skilled and specialized personnel are recruited and sent to the job site to do specific work, only to be utilized in less highly skilled work or returned home because the work for which they were hired has been taken over by the Protectorate Government, and their services no longer required for that work."

Reviews Work Accomplished

Mr. Wilbur told the committee of the tremendous accomplishments by March 31, less than a year since inception of the work and of the work currently in progress. Expenditures have been \$160,764,000, with 85% of the work completed which was originally estimated to cost \$258,270,000. Although 5,000,000 cubic yards of excavation was originally estimated for work at five bases, work at Nouasseur required 6,600,000 yards of excavation and fill, while that at Sidi Slimane required 3,300,000.

The hearings had some tense moments after Senator Johnson read into the record an editorial from the *Em-Kayan*, published by Morrison-Knudsen Co., which had the heading: "Reputable Contractors Are Scatter-Shot Targets of Reckless Political Headline-Seekers." The tension was eased after Mr. Bonny offered to withdraw any parts which the committee found objectionable.

Through questioning by Senator Harry P. Cain (R. Wash.) and others, full details of the difficulties faced by the contractors and their actions were given to the committee.

Atlas was represented by the law firm of McNutt, Marvel and Dudley. Former Governor Paul A. McNutt introduced the witnesses and sat beside them during the hearing.

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CONSTRUCTION MACHINERY...

General Contractors Hit Bill On Naming Subcontractors

- 19 A.G.C. Representatives Appear at Hearings
- Bill Overlooks Principle of Economic Construction

» THE PRACTICAL reasons why S. 2907—or similar legislation to require naming of specialty or subcontractors and their prices in bids for federal construction contracts—would operate contrary to the best interests of the government, of general contractors, of small specialty and subcontractors, and would increase the cost of construction were explained to a Senate Judiciary subcommittee at public hearings on May 20-21 by general contractor representatives.

Nineteen executives of member firms of The Associated General Contractors of America and three chapter managers appeared at the hearings to explain the harmful effects which the legislation would have on federal construction and on general contractors.

Foreman to Summarize

A further hearing was planned by Senator Harley M. Kilgore (D—W. Va.), author of the bill and chairman of the subcommittee, for June 3. Other representatives of the A.G.C. were scheduled to testify at that time.

The verbal testimony for A.G.C. members will be concluded by Managing Director H. E. Foreman, who will summarize the principal points involved in the legislation, and John C. Hayes, of Hayes & Hayes, the association's legal counsel.

Many A.G.C. chapters and members have filed written statements in opposition to the legislation with the committee or sent them to their own representatives in Congress.

The legislation has been supported by the National Electrical Contractors Association; National Association of Master Plumbers; and Heating, Piping and Air Conditioning Contractors' National Association. They have contended that the legislation is necessary to cure the practices of bid shopping and bid peddling. (May CONSTRUCTOR, page 25)

Principal Points Made by A.G.C.

The principal points which A.G.C. representatives made were:

- Such legislation would seriously hamper general contractors in accept-

ing and discharging undivided responsibility for the construction of federal projects in accord with government policies.

- It would tie the hands of general contractors in the proper selection of specialty and subcontractors best qualified for the particular project.

- In many instances it would be impossible to comply with the legislation, particularly where there were alternates in the bids to be submitted by general contractors.

- It would favor large specialty or subcontractors at the expense of small ones.

- It would place unreasonable administrative burdens and legal obligations on federal agencies.

- The legislation would restrict competition between specialty or subcontractors.

- It would increase the cost of federal construction.

- It would not cure the problems of bid shopping or bid peddling which are matters of industry practices and ethics which are not a proper of legislation but which can be solved more satisfactorily to the government, to specialty and subcontractors, and general contractors by the improvement of industry relationships.

House Bills More Erroneous

When the public hearings resumed, May 20, Paul M. Geary, executive vice president of the National Electrical Contractors Association, speaking also on behalf of the other supporters of the legislation, called attention to eight bills introduced into the House in the past few days which modified the provisions of S. 2907.

These bills, typified by H. R. 7819, by Representative Henry M. Jackson, (D.—Wash.), give the appearance of overcoming some of the objections which had been raised to S. 2907. Study of them, however, reveals that they would be even more objectionable to general contractors. The bills would give specialty contractors more privileges, while freeing them from legal responsibilities.

Vice President Street Testifies

C. P. Street, of McDevitt & Street Co., Charlotte, North Carolina, and A.G.C. vice president, was the first witness for the association. He stated, in part:

"Section 3(a) requires that the contractor, in submitting a bid on any construction work to a federal agency, name the subcontractors for the mechanical work and the cost to the contractor of each class of mechanical work. We believe this to be impractical and that the effect of this requirement would be to cause great confusion and an increased cost to the government of the work to be built.

"This arises out of the practice of subcontractors waiting until the last minute before the time appointed for the receipt of bids by the federal agency to give to the contractor a price on the specialty work. The contractor often does not have the time

Outline of S. 2907—Federal

Section 2 (a) Before any executive agency shall award a construction contract on a cost-plus-a-fixed-fee basis, such agency shall make an estimate of the cost of each class of mechanical specialty work involved.

(b) Each class of mechanical specialty work over \$5,000 shall be performed by an independent mechanical specialty subcontractor or by a contractor qualified to perform such work. Before such work can be commenced under a fee contract, the contractor must submit the name of the one to perform the work to the government agency for approval.

Section 3 (a) No executive agency shall award a lump sum construction contract unless (1) such agency shall first make an estimate of the cost of completion of each class of mechanical specialty work, (2) plans and specifications are prepared for each such class of work costing more than \$5,000, (3) the name of the subcontractor (or qualified contractor) and the cost to the contractor of each such class of work is set forth in any written bid submitted, and (4) the name of the subcontractor and the cost is specified in the contract.

(c) If a contractor is able to secure any class of mechanical specialty work by a substitute subcontractor at a lower cost, he may engage the substitute, provided he submits the name and price to the awarding agency for approval and also provided that the sub-

to consider the effect of many late subbids to determine in each specialty class the low sub-bid. This makes it highly impractical and often impossible to know which specialty trade subcontractor is low bidder and entitled to the work. The naming of a subcontractor under these circumstances is likely to be unfair to another subcontractor.

"Also, the dollar value of such specialty work cannot be determined accurately and must be guessed. These occasions of confusion arise frequently because subcontractors do not bid on exactly the same basis. For example, it is possible to have as many as five electrical subbids and yet not have any two submitted on exactly the same basis. The general contractor for the purpose of estimating must assume a price to cover all the work and in so doing assumes a risk which is customary to the business.

Construction Contract Act of 1952

stitute is a subcontractor who has been named by one of the other contractors submitting a bid after advertisement.

(f) If a substitute subcontractor is used, the general contractor's contract price is adjusted downward if there is a saving. No provision is made in the event the substitute subcontractor's price is higher.

Section 4. Defines terms used in the bill, and defines mechanical specialty work to include various kinds of plumbing, heating, piping, air conditioning and electrical work.

Modifications by H. R. 7819

Section 3 (a) Permits government agency also to require naming of subcontractors performing nonmechanical work.

(g) Requires specialty and subcontractors also to name their sub-subcontractors.

Section 6. "Nothing in this act contained shall be construed to create any privity of contract between the United States government or any agency thereof and any subcontractor or sub-subcontractor under any construction contract or to give any subcontractor or sub-subcontractor any cause of action against the United States or agency thereof arising out of the failure of any person to comply with the provision of this act."

Section 7. Provides a \$5,000 fine for contractors or subcontractors violating the act.

Called "Entirely Unworkable"

"Under Section 3(c) it is provided that, if a substitute specialty contractor be used, the substitute must be one of those named by other contractors in their proposals. This is entirely unworkable. The other subcontractors named by other contractors may not be those who can and will work harmoniously with the contractor submitting the low bid. These other subcontractors may not even have submitted a proposal to the low contractor. The subcontractor bidding with the contractor who submits the low bid might thereby be excluded entirely from the competition in favor of subcontractors who made no attempt to help the contractor prepare his successful bid. This is a completely unworkable provision for the construction industry.

Small Contractors Would Suffer

"The provisions of S. 2907 are such as to create hardships for the little subcontractors. The little subcontractor may be unknown to the contractor at the time of preparing a bid for submission to a federal agency. The contractor may be willing to do business with the little contractor if, after investigation, the little subcontractor is shown to be capable of doing the work.

"Investigations of the kind necessary to determine whether such little subcontractors should be used cannot possibly be made without days of extended study. Therefore, under S. 2907, the tendency will be to force contractors to pick the name of subcontractors who are large and well-known and financially very responsible.

"Would Freeze Out Small Subs"

"The whole tendency of S. 2907 will be to freeze out small subcontractors and new subcontractors just coming into business . . .

"It is our opinion that the enactment of S. 2907 would be detrimental to the best interests of the United States and we urge your rejection of the bill for reasons as follows:

- Higher costs would be experienced by the United States.
- Unfavorable treatment of subcontractors would be required by the act in many instances.
- The interest of small subcontractors would be jeopardized.
- The historical responsibilities of the general contractor would be increased unnecessarily in some instances

and completely hampered by unnecessary regulations in all instances.

• The law makes possible situations which would require the attempted working together by subcontractors and general contractors who are unfriendly or not harmonious, which would cause endless friction to the detriment of the United States, the contractor and the subcontractor."

A.G.C. Witnesses Who Testified

Below is a list of A.G.C. witnesses who appeared before a subcommittee of the Senate Judiciary Committee, May 20 and 21, to oppose S. 2907:

C. P. Street, vice president of the national A.G.C., McDevitt & Street Co., Charlotte, N. C.

Benjamin T. Rome, president of the Master Builders Association, Washington, D. C., and vice president of George Hyman Construction Co.

E. V. Pugh, vice president, George A. Fuller Co., Washington, D. C.

Paul Hauck, John McShain, Inc., Arlington, Va.

Robert Moyer and Alan Johnstone, Charles H. Tompkins Co., Washington, D. C.

F. H. Martell, president of F. H. Martell Co., Washington, D. C.

James M. Jarvis, chairman, Building Division, A.G.C. of W. Va., and president of the Jarvis-Courtney Corp., Clarksburg, W. Va.

George F. Cook, president of George F. Cook Construction Co., Minneapolis.

Frederick W. Mast, president of Master Builders of Iowa and vice president of Jens Olsen & Sons Construction Co., Waterloo, Iowa.

Walter W. Moeller, executive secretary of the Master Builders of Iowa, Des Moines, Iowa.

Gordon F. Wickes, president of Wickes Engineering and Construction Co., Des Moines, Iowa.

Leo P. Richardson, secretary and treasurer of W. E. Wood Co., Detroit, and representative of the Detroit Chapter of the A.G.C.

R. M. Dixon, managing director of Municipal Contractors Association, Dallas.

F. S. Oldt, chairman of Texas A.G.C. Chapter Executives' Council, and president of F. S. Oldt Co., Dallas.

Herbert W. O'Grady, executive secretary of the Virginia Branch of the A.G.C., Richmond, Va.

H. S. Crain, president of Crain and Denbo, Durham, N. C.

R. E. Fuller, General Construction Co., Columbia, S. C.

Charles L. Harney, president of Charles L. Harney, San Francisco.

Gardiner Johnson, lawyer, representing the Northern California Chapter of the A.G.C., San Francisco.

Maury Poze, Del E. Webb Construction Co., Phoenix, Ariz.

W. J. Salter, president of Stewart and Williams, Augusta, Me.

T. W. Cunningham, president of T. W. Cunningham, Bangor, Me.

House Passes \$550 Million Highway Bill

• Senate Committee Recommends \$650 Million Annually

» THE HOUSE, by a vote of 191 to 30, approved an annual authorization of \$550 million for the federal-aid highway program in fiscal years 1954 and 1955.

About the same time the House passed the measure, H.R. 7340, of which the aid funds are a major portion, the Senate Public Works Committee recommended \$650 million.

At press time the Senate passed S. 2437 after cutting it down to \$550 million a year for regular federal-aid programs. Attempts by Senators Bridges and Douglas to trim it further were barely beaten down. The bill, now providing a total of \$1,381 million for the two fiscal years, now goes to conference where differences between it and the \$1,276 million House bill will be settled.

President Truman earlier requested \$400 million to be spent in each of the two years following June 1953 when the present two-year matching program expires. The present program calls for \$500 million annually.

Furthermore, in the House version, passed May 26, all road funds except those for the Rama road, Nicaragua, which was reduced from \$4 to \$2 million in annual construction funds, were accepted in the form recommended by the Public Works Committee and \$1.5 million was added for the Baltimore-Washington highway.

Military Construction Funds

The Defense Department has requested Congress to authorize \$3 billion for the construction of bases.

House and Senate Armed Services Committees have indicated that the full amount will not be recommended to their respective Houses, and judging from statements of the Congressmen in these committees, it would take a sharp turn of international events to change their economy mood.

Almost simultaneous with the Defense Department's announcement of its wishes came the statement by House military leaders that the \$2 billion domestic base program would be cut in half. Senator Smith (R., N.J.) called for a cut of \$8 to \$18

The House bill also directs the Secretary of Commerce to prepare and revise annually, with a \$200,000 fund, "a program setting forth the essential actions which are necessary to increase and promote safety on the highways, roads, and streets . . ." It would include drafting uniform legislation for enactment by local governments, construction and vehicle control standards, safety campaigns and education, and coordination of federal safety activities.

He is directed to cooperate "to the fullest extent possible" with state, local and private bodies, and to report annually to Congress.

In increasing the authorization for the federal-aid program, the Senate Public Works Committee added to the funds approved by the House for the primary and secondary systems and for aid to urban areas, and included \$50 million annually for the interstate system which the House had omitted.

The total annual authorization for forest highways, roads and trails, park service roads, parkways and Indian roads as passed by the House was \$622.75 million compared to \$730 million recommended by the Senate Public Works Committee. The House authorized \$32 million for the Inter-American highway, access roads and the Rama road while the Senate committee recommended \$129 million and included a \$15 million emergency fund.

billion in the defense budget to avert "economic suicide," and pointed out that the Defense Department has an unexpended balance of \$66.2 billion.

Here is a breakdown of the Defense Department's requests:

Army—For construction inside the U. S., \$178.8 million; outside, \$68.6 million; classified facilities, \$26.3 million; total, \$273.7 million.

Navy—For construction inside the U. S., \$174 million; outside, \$34.8 million; classified facilities, \$29 million; total, \$237.9 million.

Air Force—For construction inside the U. S., \$860 million; outside, \$139 million; classified facilities, \$517 million; total \$1,516 million.

Collective defense—For the construction and equipping of military bases in other countries, \$1 billion.

Would Change Controls Act

Extension and amendment of the Defense Production Act, which expires June 30, have been recommended by the Senate Banking Committee.

The amended version of the act, upon which all controls regulations are based, would extend price and wage controls up to March 31, 1953, and would continue controls on rents and materials allocations for another year. It would also give the Federal Reserve Board another year's control over retail and real estate credit.

As a result of the chaos caused by the recent steel seizure and the part played in the drama by the Wage Stabilization Board, the committee chose to change the board's membership from public-labor-industry representatives to an all-public body and to limit its authority to only economic and monetary disputes, thus putting such matters as union shop agreements and other working conditions beyond its reach.

Other amendments would limit the Caperhart amendment to manufacturers and processors, excluding retailers and wholesalers, and would exempt engineers, architects and accountants from salary controls.

The House Banking Committee is expected to report its version of a bill to extend the act by the middle of this month, and it is expected that the Senate will have completed its action by that time.

T-H Change Passes Senate

The Senate on May 12 passed S. 1973 and sent it to the House where it rests with the Education and Labor Committee, which has not scheduled any action.

The bill would amend the National Labor Relations Act to permit building trades unions and contractors to make collective bargaining agreements before workers had been hired for a particular construction job, cut the waiting time for joining a union from 30 to 7 days, and expedite representation elections in which employees covered by a contract allowed by the bill could choose another bargaining representative.

Limited to the building and construction industry, the bill would permit such agreements "despite any other provision of the act or any other federal, state or territorial law."

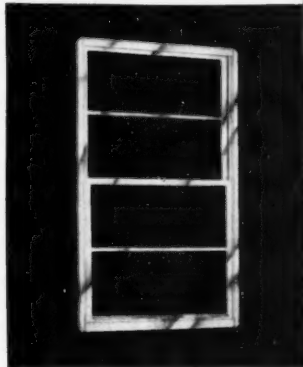
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Contractor Must Protect the Interests of Owners—Marshall

- Union Operators Hear A.G.C. Official's Labor Views
- Warns Jurisdictional Disputes Threaten Industry

IN AN ATTEMPT to explain the attitude of general contractors on labor questions, James D. Marshall, assistant managing director, The Associated General Contractors of America, told the annual convention of the International Union of Operating Engineers recently that contractors must act in the best interests of the contracting owner.

"General contractors reflect the attitude of their clients, as they must, or in the long run both the contractor and construction trades mechanic will be replaced . . .," he said.

Contractor Held for Costs

"The specialized and subcontractor knows that if the construction is to go ahead, it must have their product. Therefore, they are not so keenly alert to the owner's interest—the cost of the entire project—as is the general contractor."

"Perhaps that accounts for the mistaken attitude—we believe a mistaken attitude—of some of the subtrades that their wages or working conditions are none of the business of the general contractor," he commented.

But the general contractor must justify to the owner the total cost of the project and that is a task made more difficult by unnecessary strikes over jurisdiction or grievances, Mr. Marshall explained.

Wage Increases Must be Fair

"He (the general contractor) sells a completed job and must understand and reflect the attitude of his customer and be responsible to the customer's wishes, whether it be a government agency or a private client. Because the general contractor reflects the opinion of his clients he knows that increases in cost to the client caused by increases in wages must be understood by the client as fair and possible for him to pay," he said.

"It makes no difference how fair a wage increase may be . . . unless the customer for construction understands it."

Day labor or direct hire by industry and government agencies is a threat to

the construction industry, Mr. Marshall pointed out, and a danger that is heightened by labor troubles and work stoppages because they interfere with the construction industry, the contractor, who is the link between the owner and labor, must represent the interests of his clients.

"All contractors fight against work stoppages because they interfere with the progress of the work, which causes losses. These losses must then be passed on to the owner on the next job he bids, as a contingency item. That very contingency item may make him lose the job," he said.

Mr. Marshall told the union delegates he appreciated their attitude toward employers—one which "fits in with our view of free enterprise."

He pointed out to the meeting that contractors are facing difficult times and many are failing under stiff competition and financial duress.

Contractors Under Competition

"It was a great surprise to us to have a report from the surety companies this year that the failures of construction contractors last year were the greatest in number in 17 years past."

"So, gentlemen, we general contractor members of the Wage Stabilization Commission and the general contractors you negotiate with do not oppose large wage increases because they do not want you men to have the money but because they fear they will lose their customers and be unable to absorb the increase on going jobs."

"If the contractor must absorb wage increases on going work," he said, "they must be small in amount—as small as possible and as infrequent as possible—so that he can anticipate such increases. Then he must put contingency items entirely in his bid, and if he does, he will frequently lose the job to those who do not. Many such contractors went out of business in the last year."

The general contractor representative spoke out against wage stabilization and welfare funds.

"We do not believe the government

should create a condition where welfare is urged during wage stabilization and controls. They should result only from long and understanding negotiations in this industry and not be placed on top of a generous wage ceiling, to be grabbed for now without due deliberation."

"I do not believe such a position is contrary to the best interests of your men in the long run. Again, what will our customers think? Can we be reimbursed by them and continue a large volume of work?" he inquired.

Jurisdictional Disputes Hit

Mr. Marshall deplored jurisdictional disputes. He foresaw in such controversies, a change in bidding and contracting procedure which would "ultimately result in a breaking up of the great construction industry into parts which later would be attached, not as a part of the construction industry, but as a part of each of the other industries whom we now serve."

"In jurisdictional disputes, we need still more improved ways to preserve your jurisdiction and the jurisdiction of the other unions without work stoppages," he said.

"We also need a plan where you can safely overlook your jurisdictional rights for a few hours' work only, and yet, preserve your jurisdictional rights. Some of our cases that come before the Board are almost ridiculous because of the small amount involved, and yet we take them seriously because we know that under present conditions sometimes that is done to preserve a right which you have. We should try to find some other means of preserving that right without your having to fuss about a job for a few hours' work."

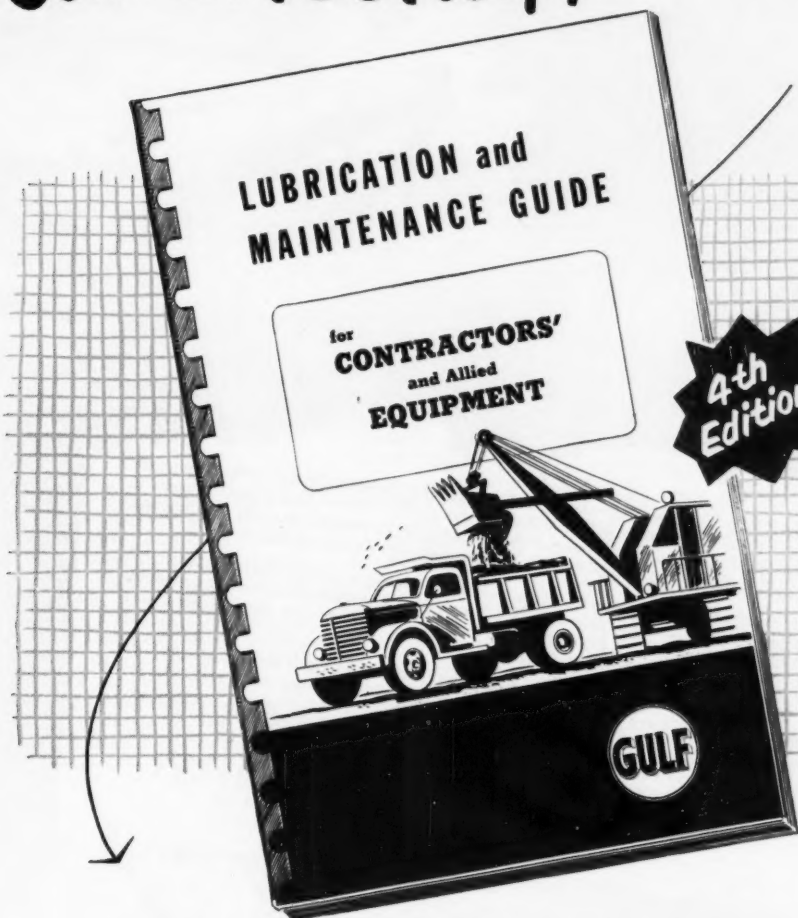
Board Purposes Limited

"We must refuse to let the Board be used as a medium to gain jurisdiction which never before was claimed or exercised . . .," Mr. Marshall said.

He warned the delegates of moves to transfer civil functions from the Corps of Engineers and from the Bureau of Reclamation to a new agency "which will cover all construction." That would mean, he felt, the creation of a super top Valley Authority which would be "putting too many construction eggs in one basket."

Mr. Marshall expressed the hope that the construction industry would "soon be out of government control as much as possible" and that labor relations and collective bargaining would again be on the normal plane.

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Contractors, Railroads Meet

Railroad construction contract forms are due for a change.

Representatives of The Associated General Contractors of America, in response to a request for collaboration on the subject, began recently the first of a series of meetings with the American Railway Engineering Association.

In the opening address in Chicago, Mr. L. A. Olson, chairman of the A.R.E.A. Committee No. 20 and a Chesapeake and Ohio Railroad official, said the purpose of the meeting was to begin work on revising the general conditions of the construction contracts, making them as brief as possible and equitable to contractors and the railroads alike.

The general conditions, as revised, could then be applied with a minimum of change to suit individual jobs calling for lump sum or cost-plus-a-fixed-fee contracts as well as minor projects. Also due for revision is the type of bond to be used, he added.

There was general agreement on most points discussed during the two-day meeting, but several were not resolved, and it was agreed that the A.G.C. representatives should forward their suggestions to the national office where a composite will be made and submitted to the committee.

The group will meet again this September in Chicago during the A.R.E.A.'s annual convention, at which time the revised general conditions will be voted on by members present at the convention assembly.

Renegotiation Rules Ready

Printed regulations of the Renegotiation Board carrying out the Renegotiation Act of 1951 are available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at \$1.50 per subscription. The price includes the basic book of orders and for an indefinite period the amendments and additions which may be issued from time to time and the staff's bulletins on their application.

Last month Paul J. Wedel, director of the Board's office of accounting, assured defense contractors that they will have the opportunity to pass upon facts on which determinations of excessive profits are made and that meetings will be held to a minimum.

Reclamation and A.G.C. Units Air Problems

• Agree on Some Points, Others Being Considered by Bureau

» A TASK UNIT of The Associated General Contractors of America met with officials of the Bureau of Reclamation in Denver last month and discussed mutual problems ranging from detailed cost data and final payments to minimizing surveying operations and changes in rock specifications.

The Bureau agreed to make or consider the following changes affecting contracts and specifications:

Withholding Final Payment. Contractors said that the Bureau, compared with other government agencies, withholds final payment too long, and suggested that after the job is substantially completed (about 50%) the remaining retained percentage be reduced so that it is not more than 10% of the uncompleted work.

Bureau officials did not object to this suggestion, but they reminded the contractors that such a move must have the approval of the bonding company.

Pipeline Leakage. Regarding this question, the contractors asked the Bureau to be more specific in establishing the tests, and to state the leakage allowable as to the "number of gallons per minute per inch," rather than "as directed or required by the contracting officer."

The suggestion was made that the Bureau should concern itself less with the intricate details of the manufacturing process and method of placing pipe and more with the quality of the work and the end result. The Bureau agreed with this but stated that bond must be furnished by the contractor.

Field Inspection. The Bureau agreed to take under consideration the request for a more uniform field inspection policy. It was pointed out that the present inspection differs in various regions and works a hardship on the contractor. Officials of the agency said some changes have been made and that they would continue these efforts.

Equipment Allowance. Reclamation officials said that in line with recent changes in allowances for equipment used on extra work, rates will be based on the percentages carried in the A.G.C. *Equipment Ownership Expense* manual.

Rock Excavation. The Bureau

agreed to investigate the need to relax rock blasting specifications which contractors said were "too rigorous."

Rock Classification. The Bureau also agreed with contractors that blasting should be allowed in confined areas that are too close for heavy equipment to be used to loosen the rock.

Plans Reproduction. Reclamation spokesmen told A.G.C. members that the requested changes in the methods of plans reproductions have been made.

Surveying. Officials of the Bureau said they are minimizing surveying, placing of stakes, etc., and are trying to further clarify what other engineering services the Bureau will furnish.

Other Specifications. The A.G.C. suggested and the Bureau agreed that when the agency refers to Standard Federal Specifications it should show the recent amendments affecting the specifications since copies of amendments are not always available.

The Bureau rejected the following changes suggested by the A.G.C. representatives:

Cost Data. Maintaining that knowledge of cost data is the best method for keeping abreast of current costs, the Bureau stated that if the contractor is unwilling to furnish this information, which is called for in specifications, he need not bid that particular job.

Association members had stated they felt such data is confidential information and should not be disclosed. Also, cost data used in bidding is often misleading because of its unbalanced nature and because it is often obsolete by the time the Bureau's engineers use it.

Flood Damage. The Bureau told the task unit it could not specify the height for cofferdams on projects and assume responsibility for damage if the level is exceeded by flood. Such a policy would put the government in the position of designing the contractors' cofferdams and diversion structures, the officials said.

The contractors had asked for this assistance on the grounds that it is increasingly difficult to obtain such insurance and if it is obtained the carrier usually cancels the policy after the first loss.

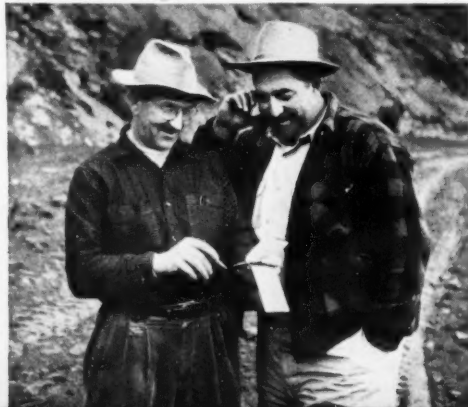
Blazin' Up the Blue Ridge

TD-24s rip up 35,000 yards of rock that otherwise would have needed blasting



PUSHOVER FOR THE CHAMP. The toughest work comes easy for the Big Red TD-24. This great International crawler digs in with 148 maximum drawbar horsepower—the most of any crawler on the market.

HAPPY CONTRACTORS Allan Siler and Fred Moore. As Mr. Moore says, "There are two ways to move rock: this way and by blasting. Our TD-24s saved us a lot of money, working rock loose long after every other tractor was through."



It was rough work to build a modern road from Charlotte, N. C., to the cool resorts along the Skyline Drive, atop the famous Blue Ridge Mountains.

One cut and fill followed another—and one cut alone was 110 feet deep in solid rock.

That's where Macon Construction Company dug out 93,000 cubic yards of rock, and instead of blasting it all, they were able to doze and rip out 35,000 yards with two big red International TD-24 crawlers.

"We have rock here that you couldn't touch with a dozer, till the TD-24 came along," says ripper operator Roy Cantrell. "Now we blade where we couldn't scratch before, and the ripper tears up rock that used to need blasting."

And dozer operator Jess Leatherwood adds, *"My TD-24 pushes more, moves faster and handles easier than any other tractor—and I've run 'em all!"*

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THE WINNING TEAM. "Deep down in the cut, it seemed every night would be the end of our ripping," says co-owner Fred Moore, "but the TD-24s kept right on going, showing how you can handle rock when you've got top power and traction."





New Concrete Panels Eliminating Brickwork

» ANOTHER sandwich panel has been invented to join a host of others fast replacing the costly time and labor involved in brickwork. The new insulated precast concrete slab is reportedly lopping off a third the cost of an ordinary 12-in. brick wall.

In Marietta, Ohio, the Marietta Concrete Corp., which produces the insulated wall panels, is hanging them on several buildings for the Union Carbide & Carbon Corp. there. Acting as non-load-bearing walls, the unique slabs are 5 in. thick and are of sandwich construction. Interior and exterior layers of concrete, each $1\frac{3}{4}$ in. thick, inclose a $1\frac{1}{2}$ -in. layer of rigid insulation. On this particular job, a saving of \$600,000 over orthodox wall construction is being claimed.

About 35 of the panels (2,500 sq. ft. of wall area) can be erected in an average day, after being trucked to the site. A nine-man crew, using a mobile crane to hoist the panels into place, can install four 8 x 10-ft. panels an hour. A brick wall of the same size would take 20 bricklayers and several helpers, it was estimated.

The two basic sizes—8 x 8 ft. and 8 x 10 ft.—can be supplemented by special sizes. The large sizes minimize the number of joints, which are the tongue and groove type with a rubber strip. Horizontal joints are sealed with cement. The 5-in. thickness—compared with the 12-in. brick wall—is space saving, in addition.

The panels are uniform in appearance and color. They meet strength specifications for reinforced concrete easily—carrying 4,300 psi. in seven days, it is reported, whereas specifications required 4,000 psi. in 28 days.

The sandwich panels are cast with a 4 x 4 in. wire mesh imbedded in each layer of concrete. Lifting hooks are recessed into the top edge of the panel to make handling easier. Threaded metal inserts for receiving connection

bolts are set near top and bottom edges of the panels so they can be bolted to the steel frame of the building. On smaller buildings, the slabs form the entire wall.

The insulation may be one of four kinds, each having a different resistance to thermal conductivity.

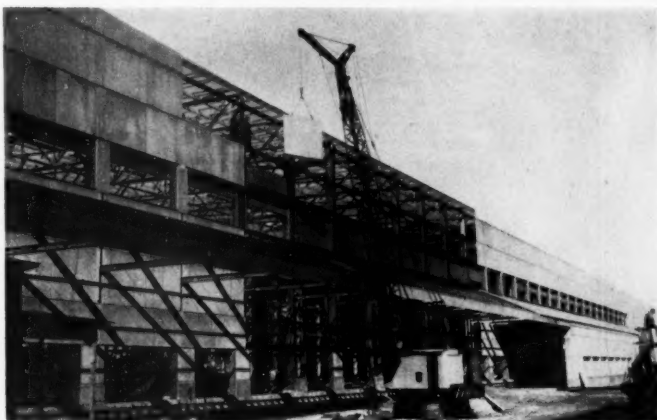
The panels are cast in steel forms lined with muslin. When the muslin is stripped from the hardened concrete, it leaves a smooth, textured surface, that minimizes light reflection and makes an excellent base for painting. This side is used as the interior wall for decorative effect. The exterior side is finished with a wood float and

A crane hoists one of the new precast concrete sandwich panels. Workmen make ready to bolt it to the steel framework.

rattan broom, causing a striated effect that extends vertically up the building.

The Marietta firm, a concrete farm silo producer, precasts the slabs on two assembly lines in its Ohio plant. It plans to begin fabricating them near Baltimore, Md., soon.

Practicable use of the new sandwich panels is now limited to projects within 200 miles of the slab-production plant. However, Marietta Concrete Corp. claims that a portable plant would be economically feasible on a job involving 150,000 sq. ft. or more of wall space. Such a unit might cost about \$150,000 and could cast about 2,500 sq. ft. of panels per day.



This industrial plant being covered with the insulated panels by Marietta Concrete Corp. is nearing completion. About 35 of the 5-in. thick panels can be placed in an average day by a nine-man crew and a crane. A savings of \$600,000 over orthodox wall construction is being claimed on this particular job by use of the unique precast slabs.

» **THE HEAVIER** the truck and the slower the speed, the greater the damage to highway surfaces.

This was the official report made recently by the Highway Research Board of the National Research Council after it spent nearly 2 years conducting controlled tests on a one-mile stretch of U. S. highway 301 south of La Plata, Md., and studying the obtained results.

For six months engineers ran trucks of four different weight categories over allotted strips of highway and jotted down, measured and computed every cracked, damaged and broken section of the test road for further exhaustive study. Cooperating in the project were the highway departments of Connecticut, Delaware, Illinois, Kentucky, Maryland, Michigan, New Jersey, Ohio, Pennsylvania, Virginia, Wisconsin and District of Columbia.

Purpose of Test Outlined

The chief purpose of the experiment was to determine the relative effects of four different axle loads on concrete pavement. The two loads of 18,000 lbs. and 22,400 lbs. were applied on single axles and the heavier ones of 32,000 and 44,800 lbs. on tandem axles.

The 1.1-mile section of portland-cement-concrete pavement, constructed in 1941, consisted of two 12-ft. lanes, of parabolic design, 9 in. thick at the edges and 7 in. thick in the center. There were four separate test sections, one for each weight grouping. The southern end of the test road was used for the single axle loads and the northern end for the tandem axle loads. The effect of loads on the lanes in the southern end officials believed could be compared directly as well as could the effect of loads on the northern end since the only major variable between the lanes in each section was the axle loading of the trucks.

Little Maintenance on Test

During the test period, maintenance of the highway consisted primarily of frequent sealing of the joints and blading the shoulders. It was agreed by participating agencies that there would be no undersealing work to replace damaged subgrading, caused by "pumping", as the sealing often produces more cracks and would have made it impossible to use the criterion of progressive cracking computed against the number of test load applications. It was also stated in the report that "if undersealing was com-

Heavy, Slow Trucks Damage Roads Most

• Final Report on Maryland Test Jars Complaint from Truckers

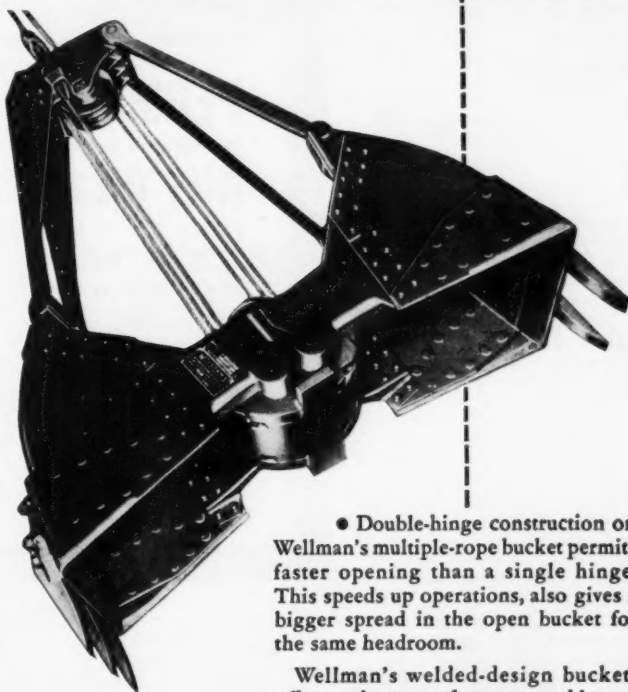
pletely effective in preventing cracks there would be no visible basis for evaluating the effect of the varying loads."

The American Trucking Association, which helped supervise the tests, released a statement on the re-

port saying "The Maryland Road Test has proved that properly maintained concrete roadways laid over a suitable base can carry heavy loadings without damage."

John V. Lawrence, managing director and spokesman of the association,

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besides charging improper maintenance, complained that soil conditions under lanes carrying heaviest test loadings were poor. He pointed out that when engineers used loads heavier than the 44,800-lb. test loads and ran them over well-supported parts of the road, no damage was caused at all.

"This is clear evidence that maintaining a good foundation, concrete roads can carry heavier than regula-

tion loadings—perhaps even more than anyone would seriously consider as a practical figure."

The board's report stated that the predominant substructure of the test road was silty clay, a poor type of soil for roads, but added that this is "typical of the soils underlying an extensive mileage of concrete pavement in this country." It also stated that the lighter loads failed to crack

the surface of the highway running over granular or excellent soil.

Major Findings Described

The major findings on single axle test loads are as follows:

Based on all types of subgrades the results show there was 6.4 times as much cracking caused by the 22,400-lb. load over the 18,000-lb. load. On the poor or silty-clay soil there was slightly more cracking caused by the heavier load, while on the excellent or granular-type subgrade no "pumping" or cracking occurred during 238,000 test runs by both weight groups of this load class.

The major findings on tandem axle loads are as follows:

On all types of soil there was 12.3 times more cracking caused by the 44,800-lb. load tests over the 32,000 lbs. There was slightly more cracking by the heavier loads on the poor or silty-clay soil. There was no granular subgrade under sections of the highway subjected to these two weight class loads. Also, the 44,800-lb. load tests were discontinued after 92,166 test runs because cracking increased to the rate of 100 ft. per day.

Slow Trucks Harder on Roads

As for the effect of speed on the amount of damage done to the road surface, it was found that vehicles traveling 40 miles per hour did 20% less damage than those traveling at "creep speed" where the speedometer failed to register.

Highway Congress Favors Tests

The Highway Transportation Congress, meeting in Washington, D. C., recently, approved road tests, provided they include the net economy of road and vehicle operating costs under varying load limitations, consider economy of different pavement and sub-grade designs for various roads and number of test runs, and record maintenance costs under various loads.

At the present time in Idaho, the Highway Research Board, working with the Western Association of State Highway Officials, is conducting a test similar to the one in Maryland. A special road is being constructed on which engineers will study the effects of different truck weights on various highway materials and sub-bases.



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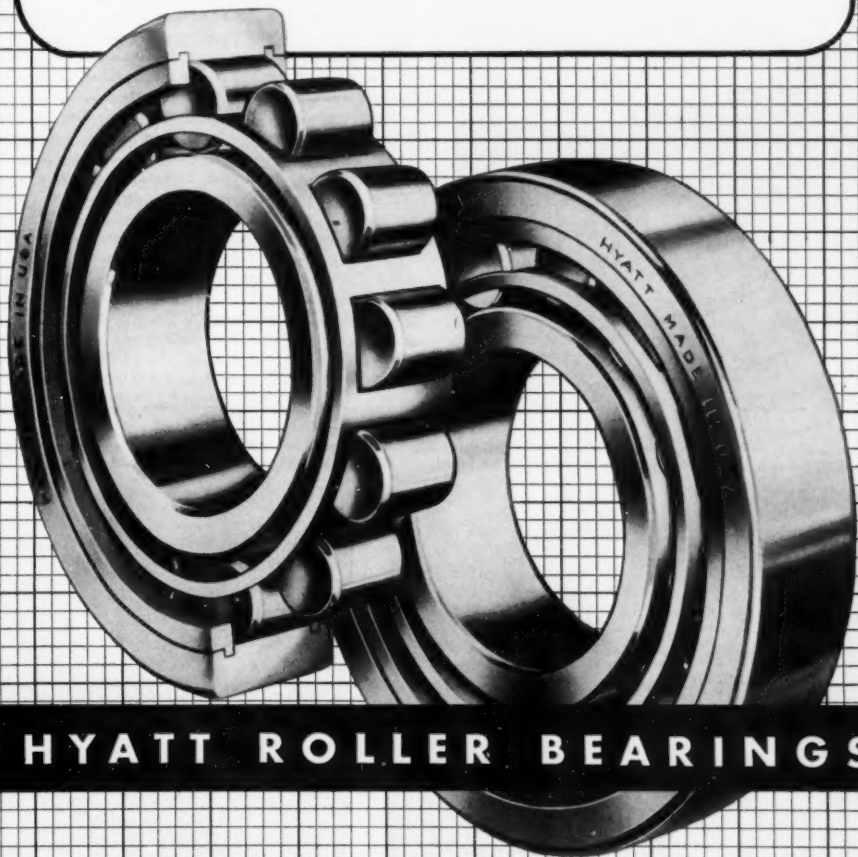
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If the specifications read "Hyatt Roller Bearings," that's your assurance that the manufacturer has used the highest quality bearings he can get to make sure you will have smooth-operating equipment that can take the shock and carry the loads required in this field. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.



HYATT ROLLER BEARINGS

Contractors Help Throttle Big Flood on the Missouri River

"The Great Flood of '52"—the recent rebellion of the mighty Missouri River—has passed into the historic past. Scattered reports of the urgent fight against the surging floodwaters credited the construction industry with amazing speed and skill in staying the high torrent throughout the episode. Now, final reports repeat the acclaim accorded the massive pitting of men and machines against the threat of disaster.

Ingenuity, equipment and dogged manpower marshaled by the Army Corps of Engineers and general contractors of the area matched and beat the worst Missouri River flood in history.

The defenders were faced with what appeared to be an almost hopeless task of protecting Omaha and Council Bluffs—both located on opposite sides of a natural bottleneck through which the swollen waters would rush. The area's major contractors moved in with every available piece of equipment and an army of operators to combat the approaching crest—expected to be 31.5 ft. high.

Twenty-three miles of levees had to be raised an average of 2 ft. to resist the unprecedented water level.

For fill, whole sections of bluffs and hills on both sides of the river were cut away by bulldozers, scrapers and shovels and trucked or hauled to the levees.

At the peak of the desperate battle against time, some 20,000 men, including 2,000 contractors' employees, 7,000 U. S. Army troops, and about 11,000 civilian volunteer workers labored on the bulwarks. An estimated 500 engineers from all over the country were working on the scene.

Equipment was rushed over the highways, preceded by a police escort, to the scene from as far away as 70 miles. Best estimates by the Corps of Engineers revealed that 210 crawler tractors, 350 rubber-tired earthmovers and probably 5,000 trucks were used. International and LeTourneau machinery of all types were pressed into use. Many of the trucks were volunteered by farmers in the area.



An International TD-9 crawler pulls tamping rollers across emergency levee thrown up to protect Omaha from the worst flood of Missouri River history.

Sealing off a sandboil behind a sagging levee.



A giant sandbagging operation. About 450 men worked here 'round the clock filling bags for the crumbling levee in background.



Huge emergency levee winds across rail lines and open fields to protect Council Bluffs.





Compacting earth between flashboards was a job which only human feet could do. Long lines of men tramped over this section of the levees.



Lines of men throw sandbags into part of the 23-mi. stretch of levees to hold the rising waters. Here, the Missouri reached its highest recorded crest.

Hundreds of mobile and portable two-way radio sets were employed to maintain contact between disaster crews and headquarters. The Motorola Corp. of Chicago turned over 55 portable "Handi-Talkie" radiophones to patrols ranging up and down the river, locating danger spots and directing men and equipment where needed.

Contractors were assigned by the Corps of Engineers to specific areas along the river ramparts. Peter Kiewit Sons' Co., A.G.C., Miller Excavating Co., and Condon-Cunningham, A.G.C., all of Omaha, worked on levee sections along the Omaha side of the river. Rorick Construction Co., A.G.C., and Orsman Construction Co., both of Council Bluffs, worked on levee defense along their side of the river. The floodwall itself, crowned with wooden flashworks, was assigned to Parsons & Metcalfe Construction Co., Omaha, and Abel Construction Co., A.G.C., Lincoln.

Secondary levees were piled up around low areas and

strategic facilities and to close off sandboils—leaks where the water had seeped under the levees to mush up through the light soil.

Ace Construction Co., A.G.C., Omaha, threw a huge 8,000-ft. secondary levee across main line railroad tracks. Aided by the Parks Construction Co. of Omaha, Ace literally moved a bluff to the levee with dexterity. When serious sandboils developed just behind the main levee, Ace and Parks built another secondary levee to bolster that part of the system.

Chief of Army Engineers Lewis A. Pick told Washington, D. C., correspondents that contractors in the flood area had performed admirably before and during the disaster. He called it the highest flow on the Missouri River, one which might have been held if construction on scheduled dams had been allowed funds to proceed. When completed, dams now under construction will be able to prevent damage from another such crest, he reported.

In a mighty effort to get heaping loads of fill to the levees, contractors used all available equipment at top speed. Here, Ace Construction Co. is literally tearing down a bluff and moving it to the levee at the rate of 1,000 yds. an hour 'round the clock. Below, a LeTourneau Carryall pushloaded by an International TD-24.

Backing up a possible breach, an emergency levee containing 30,000 yds. of fill was thrown up here in less than 24 hrs. This particular levee stretches right through the outfield of a Council Bluffs ball park. Already, water is creeping up to its base. About 5,000 trucks were at work hauling fill—sometimes from borrow pits several miles away. The whole undertaking was a race against time and the impending 31-ft. crest.



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Construction superintendent directs and coordinates operations over the Motorola 2-way radio—talking *right now*, and regardless of location, to working crews located at remote points of your operation.



Driver reporting position of his truck and status of work from distant operations point, receives orders from the control dispatcher saves hours and miles of wear, risk, and fuel.

» ALBERT BRADLEY, executive vice president of General Motors Corp. told delegates to the Fourth Annual Highway Transportation Congress last month that America would not get the new highway construction it needs "until the everyday man on the street . . . starts doing the talking."

The automobile executive, also chairman of the National Highway Users Conference, praised organizations which have raised their voices in recent months for adequate roads but he pinned his hopes for better roads squarely on an aroused public opinion.

Maryland Road Test Report—Page 39

"Our job ahead," Mr. Bradley asserted, "is to so inform the people, bring them the facts, arouse them, that once again they will demand—and get—the action that is imperative if we are to get out of the traffic muddle and provide ourselves with adequate roads for a stronger America."

He told the Washington, D. C. audience, "You don't have to be told that we're in a traffic muddle—and sinking deeper all the time." He blamed the nation's highway inadequacy on insufficient financing and lack of consideration for roads during the steel shortage.

Mr. Bradley declared that highways should be classified immediately as defense-supporting and appropriate amounts of critical materials be allocated. "Are highways defense-supporting?" he averred, "As well ask, are the arteries in your body life-supporting?"

Can't Turn Road Job Off and On

"The easing of the steel shortage in recent months has been the result of increased production and a rephrasing of the defense program. Assuming that it is more than a temporary respite, it can't change the over-all highway picture for some time. You don't squeeze a ribbon of highway out of a tube the way you do toothpaste. You don't turn a highway construction job on and off like a faucet. Yet, that is something many people can't seem to realize."

"A highway construction project requires months of coordinated planning. Everything has to move ahead concurrently. If steel is short, you don't merely concentrate on some other phase. You have to stop the entire job. And when steel becomes avail-

Only an Aroused Public Will Inspire New Roads—Bradley

- Highway Congress Told Boost Local Projects
- Hammond Hits Federal Aid for State Highways

able again, more than likely you have to refigure all your costs. In effect, you start over almost from scratch."

He condemned diversion of highway funds and pointed to the acceptance of toll roads by many motorists as an indication that people are willing to pay a price for good roads.

In another session of the highway conference, other speakers tackled the controversial question of financing new roads and maintenance.

Hammond Hits Federal Aid

Several deplored collection of highway revenues by the federal government for what they believed to be a state responsibility. Harold F. Hammond, manager of the Transportation Department, U. S. Chamber of Commerce, asserted that road improvement should be pursued by state and local governments rather than through federal aid.

"Aside from the strings that we will find attached to expansion of the federal-aid program, we are faced with an unparalleled need to cut federal

spending. Those who continue to press for sharp increases in federal spending for roads close their eyes to the price we are paying for bigger and bigger government."

Other speakers censured the circuit of highway revenues through the federal government and advocated more local control and retention of taxes. Representatives of farm, trucking and other highway user interests debated who should pay for the roads.

Mrs. Julia Hansen, state representative from Washington and first woman to serve as chairman of a state legislature's Roads and Bridges Committee, described the development of a highway program based on need rather than political considerations. Mrs. Hansen opined that highway planning will not be durable unless the support of the citizenry is enlisted and responsibility shared.

Actions of Conference

The congress sponsored a number of recommendations on pertinent financial and administrative issues.

Foremost among them was a resolution urging state highway user conferences to take positive actions to secure adequate roads. The congress advocated that state highways be scientifically classified into systems clearly defining the responsibility of state, county and local governments; that engineering studies of highway needs be undertaken; that long-range programs of development be initiated; and that highway departments publish periodically the specific projects contemplated and their priority, as established on the basis of need.

Delegates agreed that a sound program of highway improvement would also consider fair distribution of costs among highway beneficiaries, prohibit diversion of funds, secure maximum values from current revenues and continue project programming.

The congress reaffirmed its opposition to "the principle of the toll method of road financing." Even for the exceptional instances where absence of other revenue might justify toll charges, the delegates listed a body of safeguards to be followed.

PAR Movement Applauded

The recently launched PAR (Project-Adequate Roads) movement received new stimulation at the highway meeting as speakers praised its objectives. Backed by groups and individuals interested in bettering and expanding the nation's highway system, PAR is gaining momentum daily, some of the delegates reported. National leaders hope to see state and local groups embrace PAR's aims to relieve local traffic conditions and to support strong highway development programs.

PAR's adoption of sufficiency ratings as a means of classifying respective road needs won acclaim at the conference. A sufficiency rating is a number assigned to a particular stretch of highway which reflects its structural condition, safety features and capacity to carry its expected traffic load (February CONSTRUCTOR).

Contractors Vie With Force Account Method

• Cost Comparisons to Be Made on North Carolina Jobs

» NORTH CAROLINA, national sore spot of widespread encroachment of state force account work on the contract method of highway construction, now is the scene of an unusual "race" whereby costs on 7 projects to be constructed by state forces will be compared with the costs of 8 others to be performed by general contractors.

The controversy began some 3 years ago when the state bought a large amount of roadbuilding equipment and began constructing its roads by force account under a \$200 million bond program, contrary to the traditional practice throughout the country.

Another precedent was broken recently when the state extended its force account work to federal-aid roads, applying for 15 secondary projects. The Bureau of Public Roads authorized the highway commission to construct 7 of these projects by this method over the protest of highway contractors, represented by the Carolinas Branch of The Associated General Contractors of America.

BPR Men on the Jobs

However, the Bureau approved a setup whereby the remaining 8 jobs will be constructed by contract, and will compare final costs for the purpose of determining whether the highway commission can construct roads with its own forces at less cost than by the contract method.

BPR has stationed a substantial number of men in the Sixth Highway Division, in the vicinity of Asheville, where all 15 projects will be performed, as cost accountants to keep detailed records of all costs on both the force account jobs and the contract jobs. The A.G.C. chapter also is placing engineers on the state jobs to keep records of costs and compliance with plans and specifications.

All 15 projects are to be built under the same specifications.

Called a Threat to Industry

The Carolinas Branch, A.G.C., pointed out that the extension of force account work to federal-aid roads "poses a very definite and most serious threat to the highway construction industry in North Carolina, and assumes both state and national importance. . . . It is believed that the

cost by force account will exceed the cost by contract if the state includes all applicable cost items and allowances are made for items in contractors' cost that the highway commission does not have to pay, such as taxes, insurance, rentals, bonds, etc."

On the first 4 of the 15 projects to be advertised, the commission selected two for its work and awarded the remaining two to J. K. Cecil & Son, Lexington, Ky., and Dickerson, Inc., Monroe, N. C. The projects, ranging from 5 to 11 miles in size, cover grading, drainage, base, and bituminous surfacing. They are under way.

In an April 29 letting, a project

was awarded to the Dickerson firm and Roy M. Homewood, Chapel Hill, N. C., and another chosen by state forces. Two other projects were held up for further study before awarding.

Extension of the North Carolina force account method to federal-aid secondary roads comes at a time when the bond program is coming to an end in some counties and highway divisions, the Carolinas Branch noted. The 7 projects being constructed by this method are in a division which reportedly already has used about 75% of its part of the bond program.

Of about \$126 million spent in the bond program through Dec. 31, 1951, 57% represented work done by state forces, the branch said.

THE CONSTRUCTOR will carry an account of progress in the program in the July issue.

"Good Roads" Group Holds First World Meet

• U. S. Aid to Foreign Highway Development Plans Reported

» SOME 65 delegates from 25 countries met in Washington, D. C., last month in the First World Meeting of the International Road Federation.

The I.R.F., which sponsors a world-wide good roads movement, heard spokesmen for the International Bank for Reconstruction and Development, the Export-Import Bank, the U. S. Point IV Program, and the Marshall Plan describe their respective highway aid programs. All affirmed the thought that economic development in underdeveloped areas depends to a great extent upon highway development there.

General R. A. Wheeler, engineer-advisor for the International Bank, reported that the bank has made loans totaling \$25 million for roads in Nicaragua, Colombia and Ethiopia.

Technical aid to countries wishing to develop highway systems is part of the Point IV Program, George T. Ross, director of the program's industry division, told the meeting. He described successful cooperative efforts with the I.R.F. in setting up schools for highway equipment operators in Bolivia and Mexico. Latin American countries, he noted, are putting about three dollars into the technical cooperation program for every dollar the United States contributes.

The Export-Import Bank, which also makes loans for highway development, considers the ability of a country to maintain its proposed roads, R.

L. Moorman, engineer for the bank, reported. Comprehensive planning, construction standards consistent with the area's economic capacity and training of skilled mechanics are other hurdles the progressive country must jump in obtaining good roads.

"These problems are much more difficult than the construction of a road and I believe that the service provided by any highway project can be measured by the degree to which they are solved," Mr. Moorman said.

Another agency's contributions to highway development in other countries was described by Glenn H. Craig, a director of the Mutual Security Agency. Mr. Craig said that in Europe and the Far East MSA pays for dollar costs of road building, maintenance materials and equipment when such requests meet MSA standards and also provides technical aid in highway construction. U. S. technicians are hired and sent to other countries to help build and maintain better highways as part of MSA policy, he said.

A. N. Carter, manager, Highway Division, The Associated General Contractors of America, gave the overseas delegates an illustrated report on highway and bridge construction in the United States.

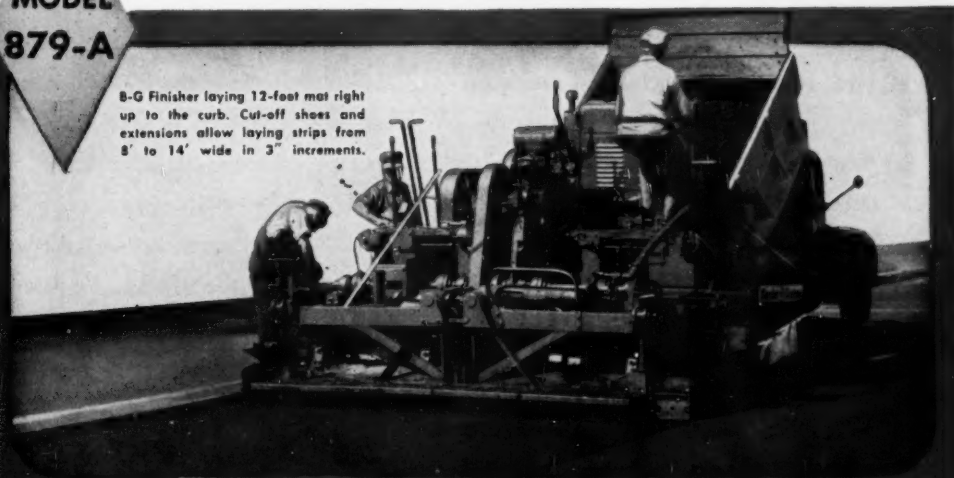
The International Road Federation meeting reaffirmed its objective of stimulating highway projects in underdeveloped areas to increase production and aid distribution.

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Total weight: 40,000 lb.

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Warehouse Building Needed

» **INDUSTRY** can partially overcome the shortage of warehouse and storage space by modifying existing buildings in some cases, but the specialized structures must be constructed new, James K. Knudson, Defense Transportation Administrator said recently.

Certain types of facilities for storing general merchandise can be found in existing buildings, but others, like refrigerated space, grain elevators and tank storage units, call for new construction, he told the American Warehousemen's Association meeting in New Orleans.

Space Shortage is Area Problem

The growth and expansion of this industry has occurred somewhat spasmodically over the years within certain geographic areas, stemming from increased industrial activity, agricultural development and improved production methods, he stated.

As a result, he continued, the DTA has concluded that expansion of capacity should be on the basis of overcoming regional or area shortages rather than on a nationwide basis.

The government agency made a recent survey of existing buildings which might be suitable for storage purposes and found only a small number suitable out of approximately 1,500 offerings, Mr. Knudson said.

"It is our opinion that the nation's productive efforts for defense, superimposed on the expanded domestic economy resulting from higher standards of living, rising population and foreign aid, will continue for some time to create increasing demands for general merchandise storage capacity."

However, he said, cooler space presents no real problem and the available space is sufficient to handle all anticipated requirements. But, freezer space is in short supply in certain areas and appears to be getting tighter.

Construction Being Encouraged

Mr. Knudson concluded his address by outlining four basic programs his agency has established to encourage expansion of the industry. They are expansion loans, tax amortization certificates, allocation of controlled materials for building projects, and an amendment to Regulation X permitting exceptions to the 50% collateral value requirement on the financing of construction of certain types of facilities.



The new Lever Building in New York City has a "sunswept" tower of glistering deep green glass and stainless steel resting lightly on its broad, airy base.

New Building is Slab of Glass and Steel

» **DESCRIPTIONS** of the new Lever Brothers New York City office building written during the past month since the structure was completed have required some new phrases. Its remarkable appearance embodies unique construction, inside as well as outside.

A combination of stainless steel and glass, the \$6 million structure seems to float above its low base. The first floor of the building is an open arcade and a glass-enclosed lobby. Only the second floor covers the entire 34,830-sq. ft. site. The third floor, carrying only an employees' cafeteria, separates the base from the sheer, floating tower which is the top 21 floors.

It is this "sunswept" tower of sealed heat-absorbing windows and spandrills of wired glass in an enframement of

stainless steel that distinguishes the structure from its massive masonry neighbors. There are 1,404 windows of blue-green glass in the building, chemically treated to absorb more than two-thirds of the sun's heat. (From the interior, they are crystal clear.)

With two horizontal courses of deep green glass spandrills between each course of windows, plus about three stories of the same material above the 21st floor, the glass surface of the building is equivalent to about 5,000 windows. To enable workers to wash this exterior glass easily, the Otis Elevator Co. developed and built a special machine. On top of the building has been installed a 10½-ton elevator car to operate on a standard gauge railroad track running around

DPA Urges Building Materials Conservation

• B.R.A.B. Report on Long-Term Measures Due Soon

» **THREE STEPS** designed to permit more construction with the limited amount of critical materials available were urged early last month by the Subcommittee on Construction of the Defense Production Administration's Conservation Coordinating Committee.

At the same time, the National Research Council's Building Research Advisory Board, which has for several months been conducting a study of conservation in building construction for the DPA, announced that its forthcoming report may produce "a framework for long-term conservation equivalent to a guide for the general advancement of building technology."

DPA Conservation Steps

Recommendations of the DPA Construction Subcommittee, which is composed of representatives of 17 government agencies connected with the mobilization program, are as follows:

1. Use by the government, private architects, engineers and contractors of principles in the 1951 edition of

"National Design Specifications for Stress-Grade Lumber and Its Fastenings," available from the National Lumber Manufacturers Association, Washington, D. C., at 25¢ per copy.

The group stressed the use of laminated wood where possible as a substitute for structural or reinforcing steel. "For example, a building measuring 40 x 50 ft. requires only 160 pounds of steel when constructed with laminated wood roof members, whereas several thousand pounds of structural or reinforcing steel would be required if it were the arched-rib steel type," the committee said.

2. Encouragement of provision in specifications for optional use of aluminum in lieu of copper for electrical conductors in size No. 6 (copper size) and larger, in view of reports that the aluminum outlook is brightening, while copper remains critical.

James W. Follin of the National Production Authority, chairman of the subcommittee, asserted that specifications of most federal construction agencies put aluminum on an equal footing with copper for conductors.

3. The use of sound condensation control measures described in a booklet, "Condensation Control in Dwelling Construction," prepared jointly by the Housing and Home Finance Agency and the Department of Agriculture.

The group called the booklet, which describes vapor barriers and proper ventilation, "a recognized code of good construction practice." It is available at 20¢ from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.

B.R.A.B. Report Due in June

Meanwhile, the Building Research Advisory Board was busy preparing its final conservation report for transmittal to DPA by June 30, with indications that the seven-panel study "seems likely to produce results far exceeding original expectations."

"When the study began, the emphasis was upon the conservation results of critical materials during the defense emergency," the board said. "Now it appears that the study will produce a framework for long-term conservation equivalent to a guide for the general advancement of building technology. This broadened scope was the inevitable result of B.R.A.B.'s

policy of getting the best advisory opinions obtainable from representative groups of experts in all fields of building research. . . . The meetings of these advisory panels were the culmination of an advisory procedure involving nearly 300 people, including meetings with government and professional advisors."

The board conducted its study with the concept that long-term conservation is measured by the lowest annual cost of the building over its life time and thus will stress competence in the design and engineering of the building, the efficiency of the building to serve its intended purpose, the costs of operation and maintenance, and its flexibility for multi-use before it finally becomes obsolete.

The B.R.A.B. panels established for the study were on building construction practices, building structure, electrical systems, heating, ventilating and air conditioning, space and planning of hospitals, structural engineering and plumbing.

Parker to Get A. I. A. Award

William Stanley Parker, F.A.I.A., Boston architect and top expert in the field of building specifications, is to receive the Edward C. Kemper Award from the American Institute of Architects at its annual convention this month.

The award is given for outstanding contributions to the architectural profession. Mr. Parker has become the leading architectural authority on contract documents and is largely responsible for the Institute's series of contract documents and its *Handbook of Architectural Practice*, the "bible" of the profession.

Technical theme of the A.I.A. convention this year is "Structural Resources for Architectural Design." Speakers are scheduled to review such topics as precast concrete construction, prestressed concrete, the "lift-slab" erection system, materials conservation and governmental specifications.

* * *

Proceedings of the first U. S. Conference on Prestressed Concrete, held at Massachusetts Institute of Technology, Cambridge, Mass., last August are now available from Prof. Myle J. Holley at that address. Cost of the publication is \$1.62. Experts at that meeting discussed the technique and its particular problems and advantages to American designers and builders.

Lever Building (Continued)

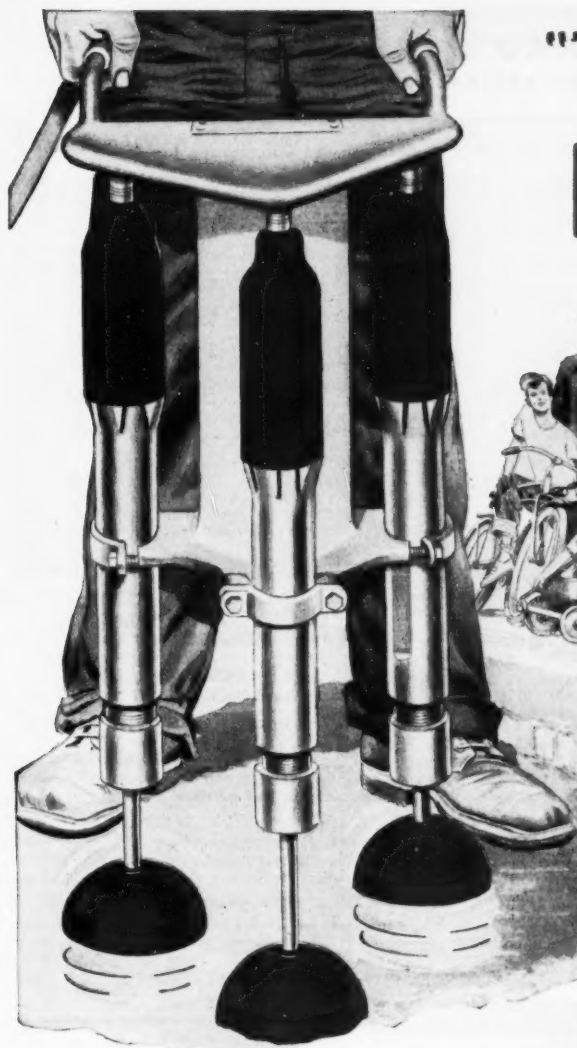
the periphery of the roof. From this car, a permanent scaffold is swung over the side, much as a lifeboat is swung over a ship's side from davits. The window cleaners ride up and down the side of the building on this gondola, which is held securely to the building by a series of flanged tracks.

The Lever building is actually built on a conventional skeleton with more than 3,400 tons of steel used in its framework. It is supported on steel columns which, sheathed in stainless steel, are visible instead of concealed.

The interior is completely air-conditioned. Each floor is divided into three zones. The sunny side of the building can be cooled while the shady side is being heated and the central zone balances the two.

Other built-in features include: an automatic mail conveyor which delivers mail to the correct floors on an endless chain system, passenger elevators electronically controlled to insure an even flow of traffic, and cellular steel used in the flooring to permit electric and telephone lines to be drawn to any square foot in the office area.

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June 1952

State Contest Winners Go to Boston Finals



The top two bricklayer apprentices in Texas, Bobby Roper of Waco and Floyd Curry of Dallas, last month had a chance to win \$500 and an all-expenses-paid trip to Bermuda and the Bahamas.

This was the first prize to be awarded in the Fourth Annual Brickmason Apprentice Competition, May 18-24 in Boston.

Outstanding apprentices from twenty-six semi-final contests represented their respective areas at the national finals held in Mechanics Hall

and sponsored by the Bricklayers, Masons & Plasterers International Union and the Structural Clay Products Institute.

The Texas contest was typical of those held throughout the nation. Early in April, Bobby Roper, left, and Floyd Curry, right, were judged the best apprentices in the state. They competed with nine other participants representing five bricklayer union locals in Texas. The B.M.P.I.U. gave the two winners \$300 to cover expenses of the Boston trip.

Eastern Conference Weighs Apprenticeship

Representatives from the ranks of labor, management and vocational educators from the Middle Atlantic states to Maine gathered in Providence last month to attend the Eighth Annual Eastern Seaboard Apprenticeship Conference.

The purpose of the meeting was to give an opportunity for the free interchange of ideas regarding local apprenticeship programs and for the evaluation of past and planning of future training for skilled workers for American industries of all types.

Construction industry representatives totalled about 125 from among the 400 who attended the conference. Principal topic of discussion among the building trades group was the lack of activity in the local Joint Apprenticeship Committees for bricklayers. It was pointed out that only one half

of these committees are actually functioning.

Regarding national apprenticeship committees, W. A. Snow, manager of the Building Contractors' Division of the A.G.C., explained that members from all areas of the country bring to one central point the information they have gained in the field with the net result that a fairly accurate picture of U. S. apprenticeship activities is produced.

Some of the topics considered by national committees, Mr. Snow said, are "(1) the employment of apprentice coordinators to assist in the administration of local programs; (2) national statistics on apprentices; (3) pre-job training programs; (4) adequacy of training programs; (5) financing of the programs; and (6) related school training."

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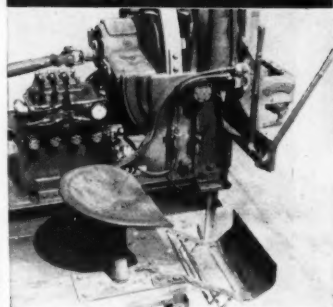
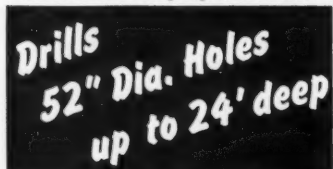
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HBR Earth Drill drilling large diameter hole.



All controls within easy reach of operator.

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View showing helix loaded with dirt withdrawn from hole.

There are other Buda Earth Drills for:
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Write for name of your nearby
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THE BUDA COMPANY
Harvey, Illinois

APPRENTICE TRAINING

150,000 Apprentices Needed

» TO MAINTAIN this year's high volume of construction which is holding its own with last year's record at the end of the first quarter, more than 2 million construction workers will be needed.

Of this tremendous labor force, at least 1.2 million men, 60%, must be skilled!

In making this estimate, Bureau of Apprenticeship Director W. F. Patterson stated that to keep a steady supply of craftsmen in the construction industry, at least 150,000 apprentices must be in training at all times. Comparatively, this means that for every eight journeymen on the job there should be one apprentice in training.

This, unfortunately, is not the case, he told construction men at an apprenticeship completion ceremony held recently in Eau Claire, Wis. At present, instead of 150,000 apprentices, there are only 93,370 actually in training. This represents a ratio of one apprentice for every 13 skilled workmen on the job—30% fewer than the established minimum.

However, Mr. Patterson told building contractors at the A.G.C.'s 33rd annual convention in Detroit in February that the 36,000 apprentices who moved into journeymen ranks after the completion of their training programs in 1951 were enough to replace those who had been "laid off, died or left the industry." This statement is lent added and noteworthy significance by the fact that in August of 1951, the 2.8 million men working in the construction industry set a new employment peak.

This does not mean that the job is done, Mr. Patterson told A.G.C. builders. The construction industry cannot rest on the laurels of one year's outstanding performance. "There are still a great many contractors who are well equipped to give training to apprentices who are not giving it."

In closing, he asserted that "though the present immediate situation in construction does not point to a shortage of manpower, the long-range, long term view" shows that there must be a steady flow of trained men to keep up the high volume of construction which is responsible for the direct employment of some 3 million and the indirect employment of over 8 million persons.



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All over America contractors report that Formfilm is the practical and economical answer for the protective coating of valuable plywood forms. Since it is easily applied and reapplied on the job, Formfilm has many advantages over any other protective finish for concrete forms. Heavy scratches for instance, can be quickly recoated when Formfilm is used at the job. Formfilm is now being widely used in "tilt-up" construction.

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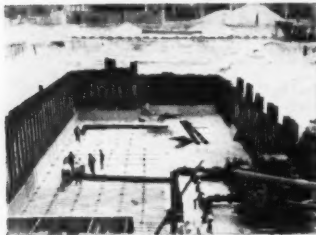
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Location was Rockaway Peninsula, sandwiched between Jamaica Bay and the Atlantic Ocean. Ground water had to be lowered to a maximum depth of 31 ft. Wellpoint Dewatering Corp., a Griffin associate, was employed to handle the intensive pumping problem.

Griffin Wellpoints took the job in stride and pumped 6 million gallons per day, round-the-clock for 9 months, to drain the entire 2-block-long project. Because of limited working space, steel piling was required in the lower portion of the deep excavation. Contractor desired to eliminate cumbersome cross-bracing; Griffin engineers planned wellpoints so that hydrostatic pressure was considered zero in piling design. Steel sheet piling was cantilevered with a penetration of 15 ft below subgrade.

• Result: Absolutely no cross-bracing—unobstructed working area—job completed ahead of schedule. For "quick-dry"...specify...Griffin.

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CHAPTERS • BRANCHES

Florida A.G.C. Council Seeks Research

• University Program Urged; Soule Becomes New President

» FLORIDA general contractors are seeking establishment of a construction research department in the state university to develop more economical methods and to study building needs peculiar to local climate.

A resolution adopted by the fifth annual convention of the Florida State A.G.C. Council recommended that the state legislature appropriate \$50,000 per year to Florida University's Engineering College for construction research purposes.

The resolution was unanimously accepted by representatives of the five A.G.C. Florida chapters who attended the April meeting in Pensacola.

Another development in the improvement of the construction industry, revealed during the two day meeting, was the increasing interest of general contractors in the accident prevention programs sponsored by the Florida chapters and the national association. Florida A.G.C. members, it was reported, are becoming increasingly aware of the large savings that can be made through adequate safety measures used on the job. Basis of the saving is reduced insurance premiums which result from a firm's improved accident record.

V. R. Gorham, Cleary Bros. Construction Co., West Palm Beach, in his

review of the Council's activities during his year as president, emphasized the need for stressing accident prevention and warned that insurers are planning to raise their rates.

Mr. Gorham, whose one-year term terminated with the meeting, was succeeded by William Soule, Soule Construction Co., Pensacola.

It was also revealed that in all but the central east coast area of the state apprentice training programs were expanding through joint efforts of contractors and labor unions.

A considerable part of the meeting was devoted to discussion of labor relations, including wage rates and the problem of health and welfare benefits.

A.G.C. District Director James L. Ewell, Ewell Construction Co., Lakeland, urged the more than 30 members who attended the meetings to become better acquainted with the activities of the national association and to make a point of attending the national conventions, the 1953 convention in particular which will be held in Miami in February.

Among the speakers who addressed the Council was Welton A. Snow, manager of the Building Contractors' Division of the national A.G.C. in Washington, D. C. Mr. Snow discussed current renegotiation regula-



New Florida State A.G.C. Council President William Soule (right, center) receives gavel from V. R. Gorham, retiring president, while National Building Division Manager W. A. Snow (far left) and District Director J. W. Ewell (far right) look on.

tions at length and described in detail the bill which would require that general contractors name subcontractors in their bids on federal projects (see page 28).

Other speakers included R. D. Hart, president of the Florida Association of Architects; Z. H. Tackett, safety supervisor, United States Fidelity & Guaranty Co., and L. S. Dasher, state supervisor, Florida Bureau of Apprenticeship.

Volpe Heads Engineer Group

John A. Volpe, a past president of the A.G.C. of Massachusetts, has been installed as president of the Society of American Military Engineers.



The Malden, Mass., building contractor, well known in construction circles for his work in accident prevention, had been an officer and member of the society prior to his taking the top post during ceremonies held in Washington, D. C., last month.

President of the Volpe Construction Co., he is a graduate in architecture of the Wentworth Institute and was a Navy commander during World War II. He succeeds Rear Admiral Leo O. Colbert, director of the U. S. Coast and Geodetic Survey.

Critchfield Chosen Manager

The office of manager of the Nebraska Chapter, A.G.C., left vacant by the resignation of Milburn D. Johnson, was filled by James R. Critchfield, April 1.



Prior to his new position, Mr. Critchfield was on the staff of the Lincoln Chamber of Commerce as assistant general manager. He specialized in business expansion activities and on committees on streets and highways.

Mr. Critchfield, a native Nebraskan and an engineering graduate of Nebraska University, will headquarter at 619 Trust Building, Lincoln.

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The strongest factory sash you can buy. "Lok'd Bar" design gives greater strength for its weight of metal. Stouter construction increases resistance to wear, tear and corrosion. Saving in upkeep cost, trouble-free operation and saving in heat losses more than return its small added cost to the owner.

Broad, double contacts on accurate surfaces abolish drafts, save heat. Weathering flanges have no racked-on strips to corrode and break loose.

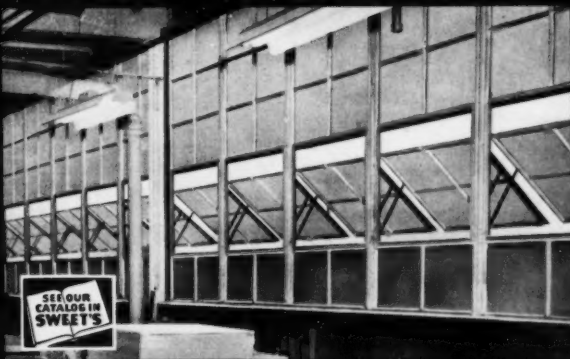
The bulb tree makes the strongest vertical sash bar.

The flat tee muntin totally replaces the steel pined from the upright — making "Lok'd Bar" the strongest sash joint.

Corners solid-welded, each ventilator frame and casement reinforces the sash, withstands wind and shock for the life of the building.

Engineers like "Lok'd Bar's" extra safety in window walls. Builders find labor savings in installation. Look into Hope's "Lok'd Bar" sash for every good industrial building. Hope's Engineering Department will assist you with detail of window design and installation. Ask for this help!

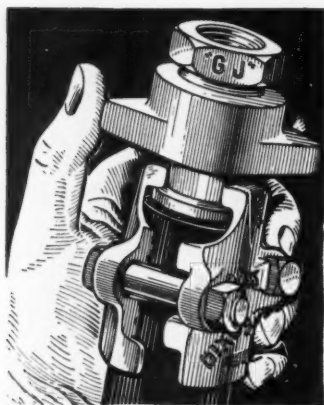
Projected ventilator, balanced on strong steel arms with brass guides held in true position. (Pivoted ventilators are balanced on solid bronze cup pivots.)



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rates first among users of heavy-duty air hose because of its outstanding strength, durability and efficiency.

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NEW EQUIPMENT • MATERIALS

Stripper Shovel—Koehring Co., Milwaukee 16. Excavator uses 2 or $2\frac{1}{2}$ cu. yd. dippers depending on digging conditions. It operates with 50' boom and 36' dipper stick which allows maximum dumping height of 40' and reach of 60' with boom angle at 45°. Known as "hi-lift" Model 1005, it uses same base machine as standard Model 1005. It can be converted for lift crane, dragline or clamshell operation. Standard 60' crane boom with rated lifting capacity of $79\frac{1}{2}$ tons can be increased to maximum of 150' including 30' boom jib. It will handle dragline buckets of $2\frac{1}{2}$ to 4 cu. yd. capacity or clamshell buckets of 3 to 4 cu. yds. It is fitted with 42" shoes and has over-all crawler dimension of $13\frac{1}{2}$ ' width and 19'3" length. Total weight is approximately 204,000 lbs.



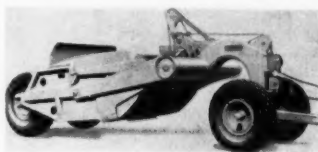
Koehring stripper shovel

Pipe Polishing Wheel—Nu-Matic Grinders, Inc., 8224 Carnegie Ave., Cleveland 3. Air-inflated polishing wheel, called "Nu-Matic Grinder," for polishing pipe ends preparatory to joining consists of rubber drum 5" in diameter with $3\frac{1}{2}$ " surface. Drum is mounted on flange with either $\frac{1}{2}$ " or $\frac{3}{4}$ " arbor. Abrasive belt is slipped over drum which is then inflated with 3 to 10 lbs. of air. Wheel can be used with any kind of power tool.



"NuMatic Grinder" polishing wheel

Scraper—Caterpillar Tractor Co., Peoria 8, Ill. No. 60 scraper for use with D6 tractor has flat-bottom bowl and reversible stinger blade. Blade cuts 7'8" swath; bottom is double with steel beam fillers. Capacity of No. 60 is 7 cu. yds. struck and 9 cu. yds. heaped. Top extensions or sideboards are available to boost capacity to 8.3 cu. yds. struck and 11.5 cu. yds. heaped. Maximum carrying capacity is 11.5 tons. Operation is by means of Cat. cable control available for attachment to tractor.



Caterpillar No. 60 scraper

Batcher—C. S. Johnson Co., Champaign, Ill. Push-button control panel automatically produces 24 different size and type batches of aggregate and cement, and "repeater" mechanism provides automatic re-batching of any one selection a predetermined number of times. Mix selection mechanism is electrically controlled and is installed under multiple-compartment aggregate and cement bin. Automatic single material batchers on each compartment are controlled by central dial scale unit with pen recording of weight of each material batch. Water batcher and cement batcher providing automatic moisture compensation complete set-up. Dial on 24-mix selector panel provides for 2,500-lb. or 3,000-lb. (per sq. in.) concrete in $\frac{1}{2}$, $\frac{3}{4}$ and 1-yd. batches. On each size batch there are selections for 3", 4", 5" or 6" slumps.

Engines—Oliver Corp., 400 W. Madison St., Chicago 6. New 199 series of stationary power units develop 73 h.p. They are available for gasoline and diesel fuels. They are 6-cylinder engines featuring overhead valves and replaceable cylinder liners. They have 4" bore, 4" stroke and displacement of 302 cu. ins. Maximum continuous duty r.p.m. is 1,800, with intermittent duty at 2,000 r.p.m. and governed speed range from 1,200 to 2,000 r.p.m. with close governor regulation.

NEW EQUIPMENT • MATERIALS

Crushing Plant—Universal Engineering Corp., Cedar Rapids, Iowa. "Senior R" 880 plant features 10' x 36" roller-bearing jaw crusher, 30" diameter x 22" face star gear roller-bearing roll crusher and 4' x 10' 2½" deck inclined gyrating screen. Plant is driven by single 115-125 h.p. power unit mounted on plant or by separate side drive through universal joint connection from separate truck-mounted power.



Universal Engineering 880 "Senior R"

Compressor—Gardner-Denver Co., Quincy, Ill. New 600 cu. ft. portable air compressor has rugged undercarriage to permit moving over rough terrain. Compressor is 8 & 6½ x 6, operates at 1,200 r.p.m., has large valve areas, large radius air passages and carefully engineered ratio of low-pressure to high-pressure cylinders. It is a 2-stage machine with water-cooled compressor cylinders.

Masonry Water Repellent—Flexrock Co., Building Products Division, 36th & Filbert Sts., Philadelphia 4. "Flexseal" is silicone-base water repellent which is said to penetrate masonry up to ¼", lining each particle of masonry with silicone resins, but not plugging pores. Compound is invisible when dry and has life expectancy of at least 5 years, manufacturer claims.

Truck Mixer—T. L. Smith Co., Milwaukee 45. New truck mixer model is equipped with truck engine drive. It is available in 4½, 5½ and 6½ cu. yd. sizes. Elimination of mixer engine has reduced deadweight by about 1,300 lbs. Over-all length is reduced 19". Considerable weight has been shifted from rear to front axle.

Vibrator Mounting Clamp—Fiber Co., 726 South Flower St., Burbank, Calif. Air-operated mounting clamp is designed to speed up attachment of external vibrators to load. Air pressure applied to clamp causes specially designed jaws to grip securely suitable steel member, such as exposed angle.

THE CONSTRUCTOR, JUNE 1952



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CONSTRUCTION DOLLARS
GO FURTHER



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PROBLEM: Forms that guarantee meeting the most rigid inspections ever encountered on paving construction.

ANSWER: Heltzel steel forms because they are rigid and joint-locked to carry heaviest equipment without wobble. They last for job after job of rugged use.

FIVE RIGID SUPPORTS PER FORM

Only Heltzel makes a form with five positive and rigid tread supports per form. The three stake pockets are welded to the lip of the tread and the upturned base flange. At each end, the sliding joint lock bolsters the joint.

UPTURNED FLANGE

Only Heltzel provides 50% extra strength with each form, by incorporating the upturned flange as standard design.

EXCLUSIVE STAKE POCKETS

Only Heltzel makes this wide protected-type stake pocket for sure-grip wedging, and rigid support of the tread.

STAKES

Only Heltzel makes stakes from rolled rail material with hot forged points.



WIDE TREAD

Heltzel makes a form with 2½" tread for greater traction, and for the greatest rigidity and strength.

HOT PRESSED JOINT LOCK

Only Heltzel makes a joint lock, hot pressed from ¼" plate, with driving ears projecting 3½" from the form.



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Construction Equipment Since 1910



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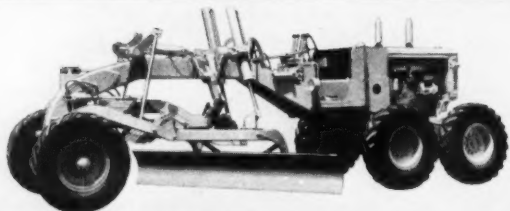
WARCO...the ONLY motor grader whose cab-controlled blade attains all working positions



without lost-time manual adjustment. WARCO... the motor grader whose base price includes



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ASK YOUR WARCO DEALER**



WARCO MOTOR GRADERS

**WARCO 4D-100 Heavy Duty 100 HP
WARCO 4D-76 General Duty 76 HP**

W. A. RIDDELL CORP., Bucyrus, Ohio, U. S. A.

Builders of WARCO Motor Graders and HERCULES Road Rollers

NEW EQUIPMENT • MATERIALS

Mixer—Kwik-Mix Co., Port Washington, Wis. New 3½S "Dandie" concrete mixer is tilting type end-discharge mixer and complies with A.G.C. specifications. It has multiple V-belt power transmission. Four mixing blades have been re-designed for faster cycles. Tilting device stops and holds drum in any position. Machine is 41" long, 65" high, has 43" shoveling height and 25" discharge height. All-welded steel drum, 30½" deep and 30" wide, is provided with reinforcing ring at 18" diameter opening.



Kwik-Mix 3½S "Dandie" mixer

Track Re-surfacing Unit—Penn Tool & Machine Co., Danville, Ill. "ConSERVall" automatic welder and re-surfacing unit reclaims track links, rolls, idlers, sheaves, etc. It welds or re-surfaces any part requiring horizontal pass. With addition of power-driven variable rotation speed "Rotator," it will re-surface any circular work. Re-surfacing operation is done by submerged arc method. Standard machine is 30' long, being made up of 3 sections each complete with work table or trough and rail for supporting travel carriage and rack. Welding head is supported by slides which provide vertical and horizontal adjustments to meet welding or re-surfacing requirements without shifting work piece.

Roller—Soilair Industries, 1200 Second Ave. S., Minneapolis 3. "Rollpac" power roller is of all-steel construction, powered by Briggs & Stratton 5 h.p. engine and equipped with Twin Disc clutch and Toro planetary transmission. Hollow rolls are built of ¾" plate. Weight is 720 lbs. light, 1,725 lbs. loaded.

NEW EQUIPMENT • MATERIALS

Trucks—Ford Division, Dearborn, Mich. 1952 truck line consists of series F-1 through F-8, ranging from light pick-up units of 114" wheelbase and 4,700 lbs. g.v.w. to extra-heavy-duty trucks with maximum 195" wheelbase and gross combination weight ratings up to 41,000 lbs. In addition to 3 all-new engines, h.p. and torque of Ford 239 cu. in. V-8 and Ford "Big Six" engines have been increased. All engines feature "Power Pilot" carburetion-ignition system, aluminum autothermic expansion control pistons, full-pressure lubrication, free-turn valves and precision-molded improved alloy crankshafts, camshafts and exhaust valves. Conventional truck models are available in all 8 series of line. Special-purpose units include F-5 and F-6 cab-over-engine vehicles.

Jack—Templeton, Kenly & Co., Chicago. "Simplex A1022" is lightweight ratchet lowering lever jack with aluminum housing. It has 10 tons capacity and weighs 42 lbs. It has minimum height of 20½", 12" lift and broad toe lift with minimum height of 2". Toe lifts full rated capacity of jack. It has drop-forged and machined alloy steel operating parts, double-lever sockets, adjustable cadmium-plated springs and links, multiple-toothed pawls, lubricated trunnion bearings and shorter fulcrum centers.

Skid Shovel—Drott Manufacturing Corp., Milwaukee 12. New shovels are offered for 3 International tractors: 1¼ yds. for TD-9, 2 yds. for TD-14A, 3 yds. for TD-18A. Patented feature called "Break-Out Action" gives bucket crowding action at every bite. Loads are transported with shoes skidding on ground. Standard equipment is "Hydro-Spring." Pressure line running from main lift rams to "Hydro-Spring" puts hydraulic system under spring tension and reduces hydraulic shocks.



Drott skid-shovel for International tractor



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• **EVEN BEFORE** the plans are drawn . . . *before* the blueprints are made on your next engineered construction job, call in Blaw-Knox engineers for the expert consultation service that assures lower concrete placing costs.

Blaw-Knox engineers are backed by over 40 years experience in solving tough or unusual concreting problems. They are trained to get to the core of your problem and find the simplest, least costly method of solving it. They can suggest operating procedures to speed the job, or cut down the necessary number of operations. They will recommend the most efficient forms for the job and help you estimate your bids.

Whatever your concreting problems—dams, tunnels, bridges, even small sewers—take advantage of the Blaw-Knox engineering service *before* you start to plan. Write, wire or phone for information.



Preliminary planning
plus **BLAW-KNOX STEEL FORMS**
saved one costly concreting operation

• This big tunnel job is a typical example of how early consultation pays off. Blaw-Knox engineers showed the contractor how to combine the collapsible Steel Forms to permit concreting of side walls and roof arch in one operation. One step in construction was saved, and the necessity of using an expensive copper water stop was eliminated.

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O. J. Ellertson, vice president of **PIONEER ENGINEERING WORKS**, has been placed in charge of all manufacturing and procurement operations. Export sales duties formerly handled by Mr. Ellertson will be handled by the domestic sales department under K. E. Brunsdale, first vice president, and Carl R. Rolf, vice president and sales manager.

Walter R. Wakefield has been appointed field sales supervisor of **A. C. HORN CO.**, specializing in production and marketing of Horn floor finishes and maintenance materials. Norman D. Nichols has been appointed field sales supervisor for "Ayr-Trap" air-entraining agent.

Robert C. Becherer has been elected president of **LINK-BELT CO.**, succeeding George P. Torrence, who has retired.

Richard L. Davis has been appointed secretary-treasurer of the **PERLITE INSTITUTE**. For the past 11 years he has been secretary of the Industrial Mineral Wool Institute.

R. H. Holsing has been promoted to assistant chief engineer of the **Rock Bit Division of TIMKEN ROLLER BEARING CO.**

Three additional members have been elected to the board of directors of **CUMMINS ENGINE CO.** They are: L. W. Beck, vice president—sales, D. J. Cummins, vice president—engineering, W. M. Harrison, vice president and treasurer.

J. C. Baseheart has been appointed general sales manager of the engine division of **THE BUDA CO.**

Jack Feucht has been appointed chief engineer of the **Cleveland Rock Drill Division of LE ROI CO.** He was formerly development engineer. Theodore Schmidt has been named assistant chief engineer.

WILLARD CONCRETE MACHINERY SALES CO., Lynwood, Calif., announces that its truck mixers and weigh batch loaders will also be manufactured in Galion, Ohio, by the **HERCULES STEEL PRODUCTS CO.**

Neal Higgins, sales consultant for **INTERNATIONAL HARVESTER CO.**, was recently awarded a certificate of service by the U.S. Department of Commerce for his work as director of the Construction Machinery Division of the National Production Authority.

John S. Bachman has been named manager of paver and portable mixer sales of the **Construction Equipment Division, WORTHINGTON CORP.**, at the Plainfield, N.J., works.

James H. Elkus has been appointed assistant manager of the **BLAW-KNOX Division of BLAW-KNOX CO.** He has been manager of methods and procedures since 1943. W. J. Kalmeyer has been appointed works manager.

A. O. Williamson has been appointed manager of the **Road Machinery Division of WM. BROS. BOILER AND MANUFACTURING CO.**

R. S. Jay has been appointed sales manager of the **Findlay Division of GAR WOOD INDUSTRIES, INC.**



MORE DOLLARS IN YOUR... POCKET!

WACO MASON'S SCAFFOLDING EQUIPMENT ON YOUR JOB PUTS HARD DOLLARS IN YOUR POCKET

1. Waco Mason's Jacks eliminate ground leveling—are speedily set-up, compact and one-man handled.

2. Waco Sectional Scaffolding has Speedlock assembly, fewer loose parts, built-in ladders and floating coupling pins, and pivoted cross-braces. Your local Waco distributor will furnish the sizes and models suited to your needs.

3. Waco Portable Elevators (cap. 1000 Lbs.) are versatile, safe, remote controlled and two-man erected, furnished with gas or electric power units.

4. Waco Material Hoisting Towers (cap. 1000 Lbs.) assemble with standard Waco Sectional Scaffolding, are remote controlled, easily erected and gas or electric powered.



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SALES AND RENTAL INVENTORIES



MINNEAPOLIS 16, MINN.
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Drilling—Rock Bit Sales and Service Co., 2514 E. Cumberland St., Philadelphia 25. Recommended procedure for drilling long holes from 20' to 150' deep with tungsten carbide "Rok-Bits," long hole drilling tools, and standard percussion type drills is covered in 4-page bulletin.

Scarifiers—Preco, Inc., 6300 E. Slauson Ave., Los Angeles 22. Back-rip scarifiers, which rip ground with bulldozer while it is backing up for next forward blading operation, are presented in 4-page folder. It tells how they work and pictures operations on varied jobs.

Hose Assemblies—Carlyle Rubber Co., 64 Park Place, New York 7. Data on industrial rubber hose assemblies for construction equipment are presented in Catalog 3-1952. Included are vari-purpose, hydraulic, paint and solvents spray, air, and lubrication hose assemblies. Couplings for vari-purpose assemblies are listed.

Prestressed Concrete Slabs—Flexicore Co., 1932 E. Monument Ave., Dayton 1, Ohio. Catalog of prestressed concrete floor and roof slabs includes diagrams showing how slabs are used, load chart, explanation of advantages of prestressed slabs, new ways to install heating systems.

Clay Pipe—Robinson Clay Product Co., 65 W. State St., Akron 9, Ohio. Folder presents company's line of vitrified clay pipe, perforated clay pipe skip-pipe and Staminite pipe, clay liner plates, clay flue lining, chimney tops and bases, vitrified clay terrace tile, Lap-Lok wall coping and septic tanks. Sizes, dimensions and weights are described in detail, with diagrams and drawings.

Crane—American Hoist & Derrick Co., St. Paul 1. New American 3/4-yd. crawler crane is presented in new catalog. Action views are shown, interchangeability of fronts is illustrated and over-all specifications are given.

Excavators—Link-Belt Spedder Corp., 1201 6th St., S.W., Cedar Rapids, Iowa. Catalog 2373 includes photos and brief descriptions and applications of 16 models of Link-Belt Spedder shovels, cranes and draglines. It lists "master books" which contain complete data on each model to augment thumbnail descriptions in this general catalog.

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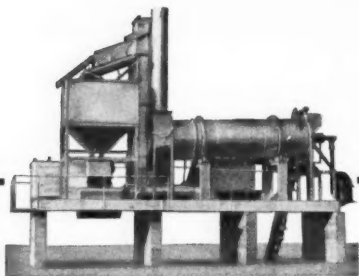
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Agency—E. M. Freystadt Associates, Inc.		Universal Manufacturing Corp.	24
Flint Steel Corp.	66	Agency—Lando Advertising Agency	
Agency—Watts, Payne—Advertising, Inc.		Warner & Swasey Co.	10
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Agency—The Griswold-Eshleman Co.		White Manufacturing Co.	68
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Agency—Young & Rubicam, Inc.			

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Rogers Bros. Corp.
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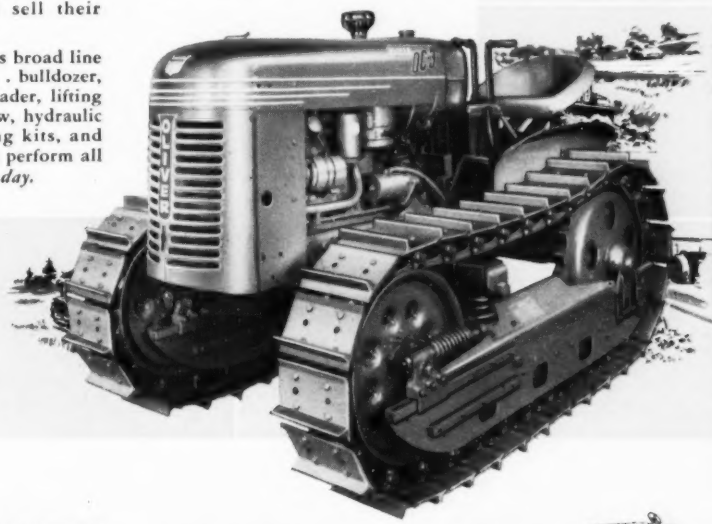
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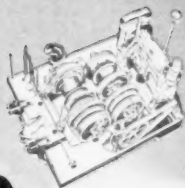
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